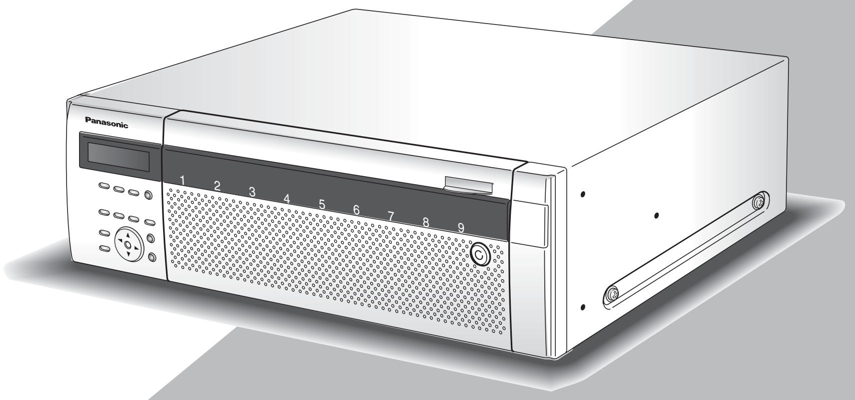
Panasonic

# Network Disk Recorder

# Operating Instructions

Model No. **WJ-ND400**



Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

# Contents

## Preface

Preface........ 5
About these Operating Instructions........ 5
System Requirements for a PC........ 6
Trademarks and Registered Trademarks........ 6

**Restrictions when operating MPEG-4 images........ 7**

**About operating windows........ 8**

Display and close the operating window........ 8
Names and functions of components........ 10
  Top page........ 10
  [Control] button........ 11
  [Cam. select] button........ 12
  [Setup] button........ 13
  Status display area........ 14
  Playback point operation area........ 15
  [HDD] tab........ 15
  [CAM] tab........ 17

## Recording and playing images

**Recording images and audio........ 18**

Manual recording of images and audio........ 18
  Recording mode and priority........ 18
  Audio recording........ 18

**Playback........ 19**

Playback recorded images........ 19
  Operations during playback........ 20
Playback from a designated time and date........ 22
Search for and playback images........ 22
  Filter conditions........ 23
  Rec event list display........ 23
  Search for and playback recorded events........ 24
  Search for and playback images with motion at a specific time and date (VMD search)........ 25
Select an area to play back........ 26

## Screen operations

**Live images........ 27**

1-screen display........ 27
  Useful functions while images are displayed........ 28
  Camera control........ 29
4-screen (Multiscreen)........ 31
Display switching (Sequence)........ 31

## Managing

**Event........ 33**

Event functions........ 33

Operations during an event .......... 34
Canceling alarm action .......... 34
Suspend alarm action .......... 34
Cancel the Error Status .......... 35
**Preventing illegal operations .......... 36**
Lock .......... 36
Cancel .......... 36
**Checking logs .......... 37**
Error log .......... 37
Access log .......... 37
Event log .......... 38
Network log .......... 38
**Copying recorded images .......... 39**
Copying .......... 39
Playing back copied images .......... 40
**Deleting images .......... 41**
Manual deletion .......... 41
**Downloading images .......... 42**
Downloading images for playback .......... 42
Downloaded image operations .......... 43
Downloading the viewer software .......... 43
Installing the viewer software .......... 43
Uninstalling the viewer software .......... 44
Playing back images .......... 44
Saving images .......... 45
Printing images .......... 46
Alteration detection .......... 46
**Transmitting data .......... 47**
Transmitting to the FTP server .......... 47
Periodically transmit camera images .......... 47
Transmit camera images when an event occurs .......... 47
Send mail .......... 47
**Checking system/disk information .......... 48**
System information .......... 48
Disk information .......... 48

## Attachments

**About mail notification .......... 49**
Alarm mail notification .......... 49
Warning mail notification .......... 49
**Error log .......... 52**
About the error log .......... 52
**Error operations .......... 58**
About the error operations .......... 58
Parameter in the logs above .......... 59

**Troubleshooting................................................................60**
Problems........................................................................................ 60
Message display ............................................................................ 64
**Glossary.........................................................................................65**
Words used in the manual ............................................................ 65
**Index................................................................................................68**

# Preface

The Network Disk Recorder (WJ-ND400) is for recording images and audio from network surveillance cameras to a hard disk (hereafter HDD). It is possible to connect up to 64 cameras over a network.

Also, it is possible to access and operate the recorder via a network from the web browser on a computer (hereafter PC). A maximum of 16 PCs can be connected (via a network).

- The network settings for the PC need to be done to do settings and operations from the PC. A web browser must also be installed.

# About these Operating Instructions

There are four manuals, they include the Installation Guide, Setup Instructions (PDF file), Operating Instructions (PDF file), and the Quick Reference Guide.

- Installation Guide : How to configure required settings and connect the equipment.
- Setup Instructions (PDF file) : How to configure required settings and connect the equipment to perform operations from a PC over a network.
- Operating Instructions (PDF file) : How to perform operations from a PC.
- Quick Reference Guide : Basic settings and frequently used functions.

Adobe® Reader is required to refer to the “Operating Instructions” and the “Setup Instructions” on the provided CD-ROM. When the Adobe® Reader is not installed on the PC, download the latest Adobe® Reader from the Adobe web site and install it.

In this manual and on the screen, the ND400 and the recorder are shown as WJ-ND400.

Refer to the "readme.txt" file on the CD-ROM bundled with the recorder for information about the versions and types of separately available software and cameras supported.

The following abbreviations are used in this document.

Microsoft® Windows Vista® Business (32-bit) is called Windows Vista®.

Microsoft® Windows® XP Professional SP2, and Microsoft® Windows® XP Home Edition SP2 are called Windows® XP.

# System Requirements for a PC

It is recommended to operate this unit using a PC that meets the following system requirements.

- OS : Microsoft® Windows Vista® Business (32-bit)
  : Microsoft® Windows ® XP Professional SP2*
  : Microsoft® Windows ® XP Home Edition SP2*
- OS Language : English, French, Spanish, German, Italian, Russian, Chinese
- CPU : Pentium® 4 3.0 GHz or faster
- Memory : 1 GB or more (512 MB or more is required when using Microsoft® Windows® XP.)
- Monitor : Resolution: 1 024 x 768 pixels or more
  Color: 24-bit True color or better
- Network interface : 10/100/1 000 Mbps Ethernet port x1
- Web Browser : Windows® Internet Explorer® 7.0
  : Microsoft® Internet Explorer® 6.0 SP2*
- Audio interface : Sound card (when using the audio function)
- Other : CD-ROM drive: It is necessary to refer to the operating instructions and use the software on the provided CD-ROM.
  : DirectX® 9.0c or later
  : Adobe® Reader®: It is necessary to refer to the operating instructions on the provided CD-ROM.

* Microsoft® Internet Explorer® 6.0 SP2 is required when using Microsoft® Windows® XP Professional SP2 or Microsoft® Windows® XP Home Edition SP2.

**Important:**

- When using a PC that does not meet the above requirements, displaying of images may become slow or the web browser may become inoperable.
- Audio may not be heard if a sound card is not installed on a PC. Audio may be interrupted depending on the network environment.
- Refer to "Notes on Vista®" (PDF) for further information about system requirements for a PC and precautions when using Microsoft® Windows Vista®.

# Trademarks and Registered Trademarks

- Adobe and Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- Microsoft, Windows, Windows Vista, Internet Explorer, ActiveX, DirectX are either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.
- Intel and Pentium are trademarks or registered trademarks of Intel Corporation and its subsidiaries in the USA and other countries.
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- Other names of companies and products contained in these operating instructions may be trademarks or registered trademarks of their respective owners.

# Restrictions when operating MPEG-4 images

There are following restrictions when "MPEG-4" is selected for the image compression method on the setup menu. ("NW camera" under "Camera")

## 1. When displaying live images

(1) Black screen may be displayed for the first few seconds (*) when the following operations are performed while displaying live images.

- When MPEG-4 live images are displayed (by switching camera channel, etc.)
- When MPEG-4 image is enlarged (or when enlarged MPEG-4 image is resized to the original size)

(2) It may take several seconds (*) for refresh interval of MPEG-4 image when displaying images on a 4-screen.

**Example:** When "3 seconds" is selected for the refresh interval on the camera, MPEG-4 image will be refreshed in 3 seconds intervals.

### 2. When displaying images sequentially

When "MPEG-4" is selected for the image compression method of the camera selected for a camera channel on the setup menu, the respective sequence step will be skipped.

## 3. When playing recorded images

(1) Displayed playback time may be fast for several seconds (*) when the following operations are performed while playing recorded images

- When MPEG-4 recorded images are played (by changing camera channel, etc.)
- When MPEG-4 image is enlarged (or when enlarged MPEG-4 image is resized to the original size)

  (When operating to zoom in/out a paused MPEG-4 recorded image, image of several seconds later than the displayed image may be enlarged.)
- When the [PLAY] button is clicked again while playing MPEG-4 image
- When the first frame is displayed by clicking the [NEXT IMAGE] button during pausing

(2) Playback may be performed in several seconds intervals (*) when the following operations are performed while playing MPEG-4 image. Refer to page 20 for operations during playback.

- Reverse playback ([REV PLAY])
- Fast playback/fast reverse playback ([FF] / [REW])
- Reverse frame playback ([PREV IMAGE])

**Example:** When "3 seconds" is selected for the refresh interval on the camera, MPEG-4 image will be played in 3 seconds intervals.

(3) When two records are played sequentially, the last few frames of the former record and the first few frames of the next record may be displayed overlapped.

(4) When playing MPEG-4 image by designating time and date, playback may start from a point several seconds before or after the designated time and date or from the first frame of the next record.

### 4. When recording images

(1) Time and date displayed on the recording event list (actual start time of recordings) may not exactly indicate the actual time of recording trigger (event occurrence time, start time of the schedule recording, etc.), and also the recording duration may be shortened for seconds worth two times of the refresh interval set on the camera.

**Example:** When the set recording duration and the set refresh interval of the camera are 10 seconds and 1 second respectively

10 - (1 x 2) = 8 (sec)

The minimum actual recording duration is 8 seconds.

(2) When pre-event recording is set to be performed, pre-event recording duration may be longer than the set duration.

**Example:** Depending on the size of the image data, pre-recording duration may be around 10 seconds even when setting 5 seconds for the pre-event recording duration.

### 5. When copying images

Copying may start from a point several seconds (*) later than the designated start time when copying MPEG-4 images. To copy the desired images for sure, designate start time several seconds earlier than the time when the desired images are recorded, and set time range for copying longer than the refresh interval set on the camera.

### 6. When downloading recorded images

Download of recorded images may start from a point several seconds (*) earlier than the designated start time. Set time range for download longer than the refresh interval set on the camera.

### 7. When transmitting images recorded at an event occurrence to the FTP server

Duration of images to be transmitted to the FTP server, which are recorded at an event occurrence, may not be exactly the same as the duration set for "Duration-Pre" and "Duration-Post". Set "Duration-Pre" and "Duration-Post" longer than the refresh interval set on the camera.

### 8. Other

MPEG-4 images will not be attached to alarm mails.

Even when images are to be transmitted to the FTP server periodically, MPEG-4 images will not be transmitted.

* Time (seconds) differs depending on the refresh interval set on the camera (0.2 - 5 seconds). To shorten time lag, set the refresh interval on the camera shorter. Refer to the operating instructions of the camera for how to configure the refresh interval.

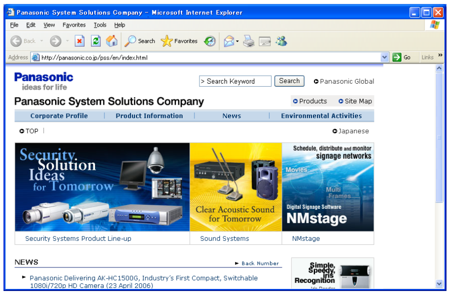
# About operating windows

## Display and close the operating window

Operate the recorder from a web browser on a PC.

**1** **Start the PC.**

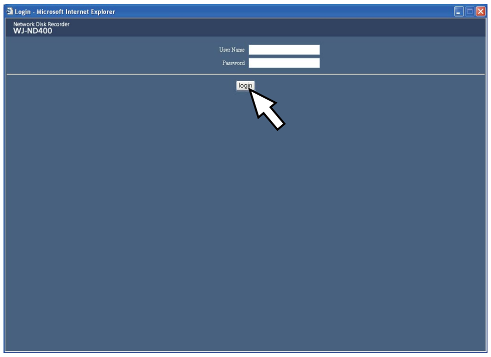
**2** **Launch the web browser.**


Panasonic System Solutions Company - Microsoft Internet Explorer
http://panasonic.co.jp/pss/en/index.html
Panasonic
ideas for life
Panasonic System Solutions Company
Corporate Profile
Product Information
News
Environmental Activities
Security Solution Ideas for Tomorrow
Clear Acoustic Sound for Tomorrow
NMstage
Security Systems Product Line-up
Sound Systems
NMstage
NEWS

**3** **Enter the URL or IP address set for the recorder into the address box and press the [Enter] key.**

The authentication window is displayed.

- If [User authentication] is [Off], the authentication window does not open (refer to the Setup Instructions (PDF file)).

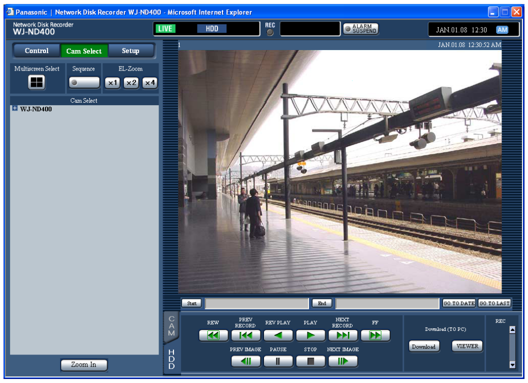

Login - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
User Name
Password
login

**Important:**

- Refer to your system administrator about the IP address settings.
- If the [Host authentication] is [On] (refer to the Setup Instructions (PDF file)), only PCs that have an IP address that is registered with the recorder can connect to the recorder. For more information, contact your system administrator.
- Do not enter "0" on the front of the IP address when inputting it.
  Example:
  OK: 192.168.0.50
  NG: 192.168.0.050
- Refer to page 64 if a message appears in the information bar.

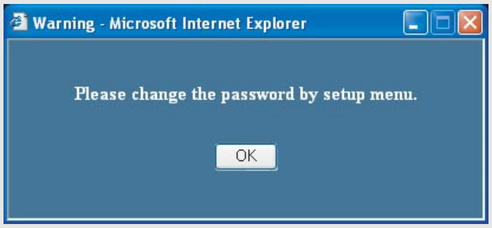
**4** **Enter a "User name" and "Password" that is registered with the recorder, and click the [Login] button.**

The top page is displayed.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
LIVE
HDD
REC
JAN 01 08 12:30 AM
Control
Cam Select
Setup
Multiscreen Select
Sequence
EL-Zoom
x1
x2
x4
Cam Select
WJ-ND400
Zoom In
REW
PREV RECORD
REV PLAY
PLAY
NEXT RECORD
FF
PREV IMAGE
PAUSE
STOP
NEXT IMAGE
GO TO DATE
GO TO LAST
Download (TO PC)
Download
VIEWER
REC

**Important:**

- Refer to your system administrator for the user name and password set for you.
  Refer to the Setup Instructions (PDF file) for information about user registration.
- The default user name and password settings are shown below.
  User name: ADMIN
  Password: 12345
- To ensure security, change the ADMIN password before starting operations. Also, change the password periodically. Refer to the Setup Instructions (PDF file) for information about changing passwords.
- When the unit is being operated without changing the default administrator name and password, the pop-up window saying that it is recommended to change the password will be displayed.

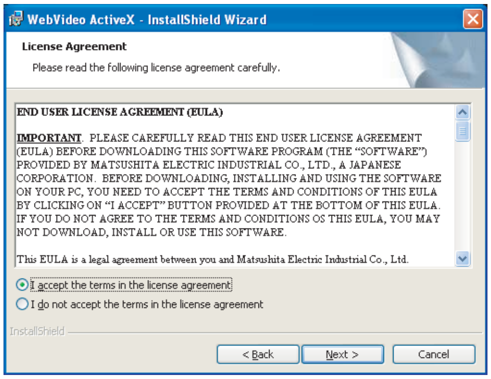

Warning - Microsoft Internet Explorer
OK

Please change the password by setup menu.

## 5 Click the buttons and tabs to set up operations.

**Important:**
- Refer to page 64 if a message appears in the information bar.

**Note:**
- The first time the recorder's top page is displayed on a PC the wizard for installing ActiveX, which must be installed to view images, is displayed. Follow the on-screen instructions.


WebVideo ActiveX - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.

**END USER LICENSE AGREEMENT (EULA)**

**IMPORTANT**. PLEASE CAREFULLY READ THIS END USER LICENSE AGREEMENT (EULA) BEFORE DOWNLOADING THIS SOFTWARE PROGRAM (THE "SOFTWARE") PROVIDED BY MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD., A JAPANESE CORPORATION. BEFORE DOWNLOADING, INSTALLING AND USING THE SOFTWARE ON YOUR PC, YOU NEED TO ACCEPT THE TERMS AND CONDITIONS OF THIS EULA BY CLICKING ON "I ACCEPT" BUTTON PROVIDED AT THE BOTTOM OF THIS EULA. IF YOU DO NOT AGREE TO THE TERMS AND CONDITIONS OS THIS EULA, YOU MAY NOT DOWNLOAD, INSTALL OR USE THIS SOFTWARE.

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○ I do not accept the terms in the license agreement

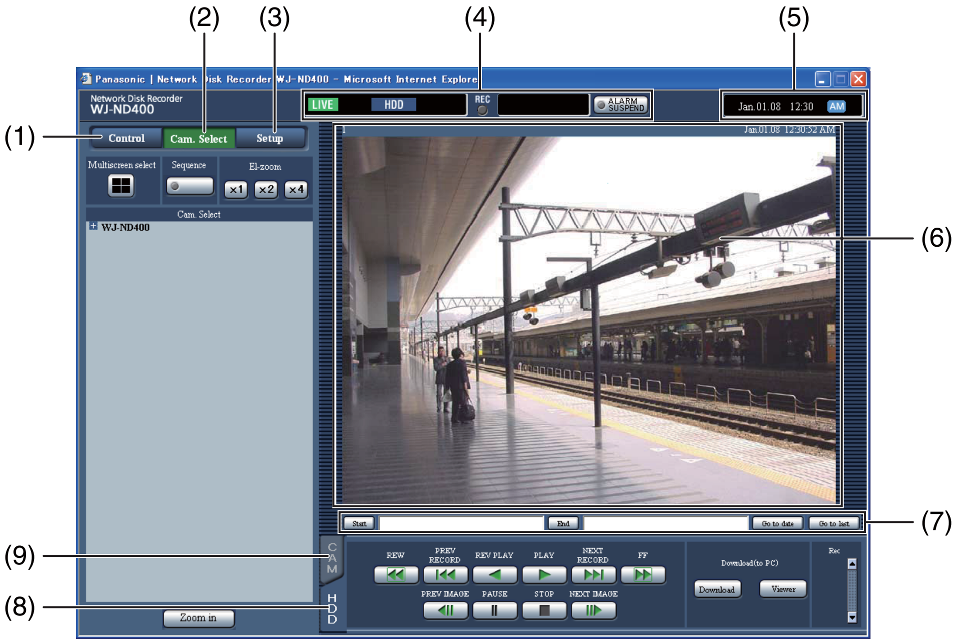
- If WJ-ND200/WJ-ND300 ActiveX is already installed, delete WebVideo ActiveX using Add or Remove Programs and then install WJ-ND400 ActiveX.
- When the install wizard is displayed again even after completing the installation of the ActiveX, restart the PC.

## 6 Close the web browser after operations and settings are finished.

Follow the on-screen instructions for setting and ending functions.

# Names and functions of components

## Top page


(2)
(3)
(4)
(5)
(1)
(6)
(7)
(9)
(8)
Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explore
Network Disk Recorder
WJ-ND400
LIVE
HDD
REC
ALARM SUSPEND
Jan.01.08 12:30 AM
Control
Cam. Select
Setup
Multiscreen select
Sequence
El-zoom
×1
×2
×4
Cam. Select
WJ-ND400
1
Jan.01.08 12:30:52 AM
Start
End
Go to date
Go to last
CAM
HDD
REW
PREV RECORD
REV PLAY
PLAY
NEXT RECORD
FF
PREV IMAGE
PAUSE
STOP
NEXT IMAGE
Download(to PC)
Download
Viewer
Rec
Zoom in

**(1) [Control] button (page 11)**
Performs operations such as searching for recorded images. You can also perform the functions of the camera picture switcher such as changing the display of camera live pictures to multiscreen or sequential display.

**(2) [Cam. select] button (page 12)**
The switcher functions such as switching camera channels are operable on this page.

**(3) [Setup] button (page 13)**
Sets up the recorder.

**(4) Status display area (page 14)**
Displays the recorder's status, such as the recording and playback status.

**(5) Current time display area**
Displays the current time.

**(6) Image display**
Displays live and recorded images. Displays the camera title in the upper left and the date/time in the upper right (current for live, recorded for recorded images). Click the camera title when viewing multiscreen to view the clicked image on a single screen.

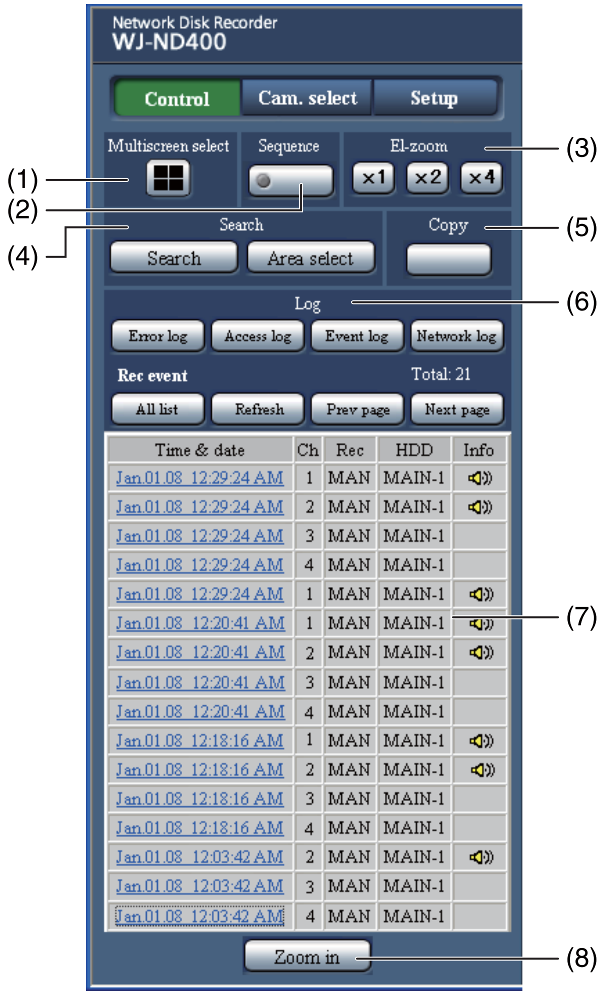
**(7) Playback point operation area (page 15)**
Specify the playback position or skip to the latest images.

**(8) [HDD] tab (page 15)**
Controls recorded images, such as playing images or downloading to save to a PC.

**(9) [CAM] tab (page 17)**
Controls the cameras' zoom, focus, and automatic functions.

## [Control] button

The following operation panel appears when you click the [Control] button.



Rec event Total: 21

| Time & date | Ch | Rec | HDD | Info |
|---|---|---|---|---|
| Jan.01.08 12:29:24 AM | 1 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:29:24 AM | 2 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:29:24 AM | 3 | MAN | MAIN-1 | |
| Jan.01.08 12:29:24 AM | 4 | MAN | MAIN-1 | |
| Jan.01.08 12:29:24 AM | 1 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:20:41 AM | 1 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:20:41 AM | 2 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:20:41 AM | 3 | MAN | MAIN-1 | |
| Jan.01.08 12:20:41 AM | 4 | MAN | MAIN-1 | |
| Jan.01.08 12:18:16 AM | 1 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:18:16 AM | 2 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:18:16 AM | 3 | MAN | MAIN-1 | |
| Jan.01.08 12:18:16 AM | 4 | MAN | MAIN-1 | |
| Jan.01.08 12:03:42 AM | 2 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:03:42 AM | 3 | MAN | MAIN-1 | |
| Jan.01.08 12:03:42 AM | 4 | MAN | MAIN-1 | |

### (1) [Multiscreen select] box

Displays multiple images from up to 4 cameras at the same time. Switches between the four screens with each clicking the button following the preset camera combination (refer to the Setup Instructions (PDF file)).

### (2) [Sequence] box

Switches the camera images automatically in a preset sequence. The button indicator lights green during sequence (refer to the Setup Instructions (PDF file)).

### (3) [El-zoom] box

Displays the camera image at the magnification of the button clicked.

×1 : 1x

×2 : 2x

×4 : 4x

### (4) [Search] box

#### [Search] button

Searches for recorded images. The search results are shown on the rec event list window (page 24, page 25).

#### [Area select] button

Selects disk to play or search (page 26).

### (5) [Copy] box

Copies recorded images into the Copy area of the HDD.

### (6) [Log] box

The history is shown on the rec event list window.

#### [Error log] button

Displays a log of the errors that occur.

#### [Access log] button

Displays the log in/log out time and date, the user name or IP address.

#### [Event log] button

Displays the event log (when it occurred and a description).

#### [Network log] button

Displays a log of the problems that occur on the network.

### (7) Rec event list

#### Number of events

Displays the total number of events in a list. If there are more than 10 000 events, [>10000] is displayed.

#### [All list] button

Removes any conditions and all rec events are listed.

#### [Refresh] button

Updates the display to the most recent status.

#### [Prev page] button

Displays the previous page of the list.

#### [Next page] button

Displays the next page of the list.

#### [Time & date]

Displays the time and date.

#### [Ch]

Displays the channel of the recorded data.

#### [Rec]

Displays the recording mode (page 23).

#### [HDD]

Displays the number of the disk where data is stored.

#### [Info]

An icon is displayed on the image when audio is available.

### (8) [Zoom in] button

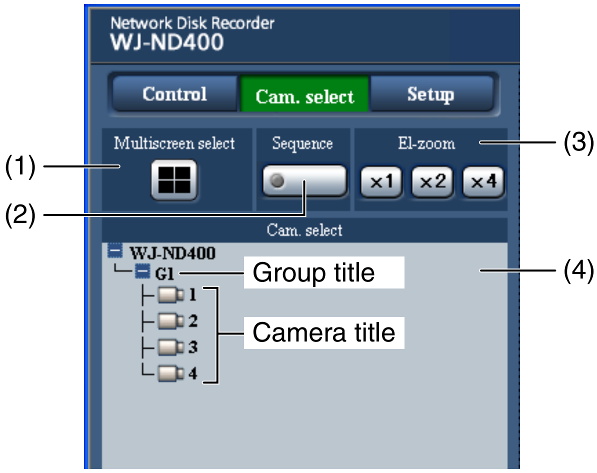
Enlarges the display of live and recorded images.

**Note:**

- The rec event list is displayed when the [Refresh] button is pressed, or when searching (page 24, page 25) or when selecting an area (page 26).
- The [All list] button is disabled during playback. Stop playback and then do the search operation.
- When there are many cameras, the recording start time may vary for each channel.

## [Cam. select] button

The following operation panel appears when you click the [Cam. select] button.


Network Disk Recorder
WJ-ND400
Control
Cam. select
Setup
Multiscreen select
Sequence
El-zoom
×1
×2
×4
Cam. select
WJ-ND400
G1
1
2
3
4
Group title
Camera title
(1)
(2)
(3)
(4)

### (1) [Multiscreen select] box

Displays multiple images from up to 4 cameras at the same time. Switches between the four screens by each clicking of the button following the preset camera combination (refer to the Setup Instructions (PDF file)).

### (2) [Sequence] box

Switches the camera images automatically in a preset sequence. The button indicator lights green during sequence (refer to the Setup Instructions (PDF file)).

### (3) [El-zoom] box

Displays the camera image at the magnification of the button clicked.

×1 : 1x
×2 : 2x
×4 : 4x

### (4) [Cam. select] box

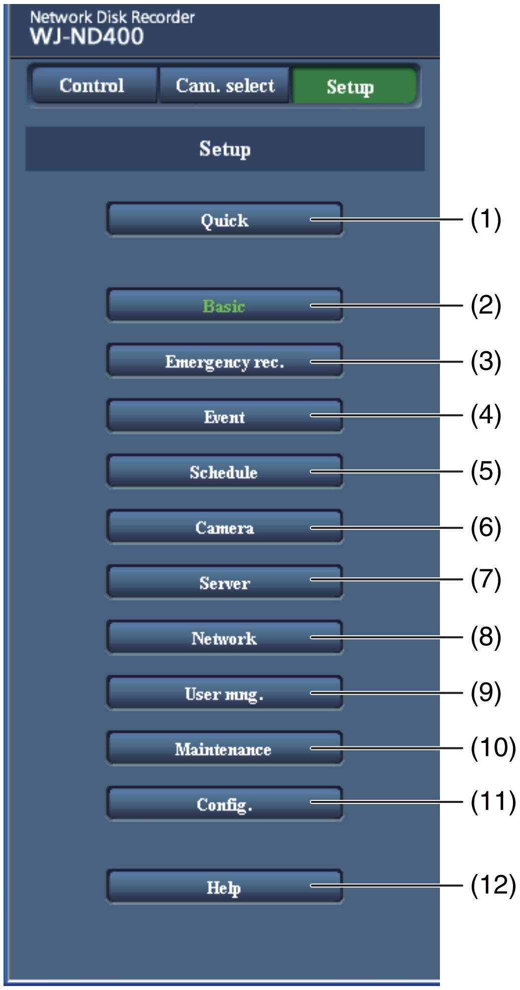
Displays the group titles of the cameras connected to the recorder when clicking [WJ-ND400]. Refer to the Setup Instructions (PDF file) for information about group settings.

Displays the cameras the belong to that group when clicking a group title. Displays the image of camera when clicking a camera title on 1-screen.

## [Setup] button

The following operation panel appears when you click the [Setup] button.

Refer to the Setup Instructions (PDF file) for more information.


Network Disk Recorder
WJ-ND400
Control
Cam. select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
(1)
(2)
(3)
(4)
(5)
(6)
(7)
(8)
(9)
(10)
(11)
(12)

### (1) [Quick] button

Displays a menu with the minimum settings necessary to operate the recorder.

### (2) [Basic] button

Displays a menu for system and date/time settings necessary for basic operations of the recorder.

### (3) [Emergency rec.] button

Displays a menu for emergency recording settings.

### (4) [Event] button

Displays a menu for setting the operations for the occurrence of each type of event (site alarm, terminal alarm, command alarm).

### (5) [Schedule] button

Displays a menu for setting recording/event action for specified days and times.

### (6) [Camera] button

Displays a menu for setting the network, group, and sequence of cameras.

### (7) [Server] button

Displays a menu for setting the server of recorder.

### (8) [Network] button

Displays a menu for setting the network of recorder.

### (9) [User mng.] button

Displays a menu for setting authentication.

### (10) [Maintenance] button

Displays a menu for setting HDDs.

### (11) [Config.] button

Displays a menu for disk information, data encryption settings, and formatting disks.

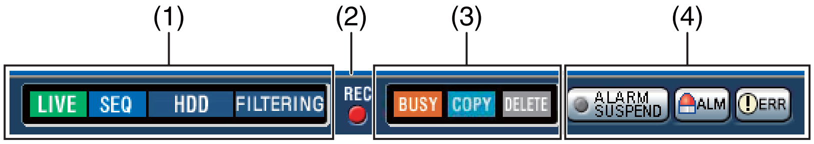
**Important:**

- When settings are activated, all logged in users log out.

### (12) [Help] button

Displays the Help window.

## Status display area



### (1) Displays the status of live and playback images.

| | |
|---|---|
| LIVE | : Live images are being displayed. |
| ▶ | : Recorded images are being played back. |
| ◀ | : Images are being played back reversely. |
| ▶▶ | : Images are being played back at fast forward. |
| ◀◀ | : Images are being played back reversely at fast forward. |
| II | : Playback is paused. |
| DL | : Recorded images and audio are being downloaded. |
| END | : Recorded images and audio have been downloaded. |

[Step 1] to [Step 7]

: The playback speed is displayed.

| | |
|---|---|
| Step 1 | : 1x |
| Step 2 | : Approx. 4x |
| Step 3 | : Approx. 8x |
| Step 4 | : Approx. 16x |
| Step 5 | : Approx. 32x |
| Step 6 | : Approx. 48x |
| Step 7 | : Approx. 96x |

| | |
|---|---|
| SEQ | : The sequence is being activated. |
| HDD | : Normal recording area or event recording area of the HDD on the recorder is selected. |
| HDD COPY | : HDD copy area is selected. |
| SD ► HDD | : SD memory data is currently being obtained. |
| RECOVER | : RAID is being recovered. |
| FILTERING | : Rec event list is filtered. For details on filtering of recording event searches, refer to page 24 for information on conditions for filtering. |

### (2) [REC] indicator

Displays the recording status.

| | |
|---|---|
| REC ● | : Recording is being performed. |
| REC ○ | : Recording is not being performed. |

### (3) Display the following statuses.

| | |
|---|---|
| BUSY | : Camera cannot be operated because a user with a higher priority is using the camera. |
| COPY | : Copying is being performed. |
| DELETE | : Image data is being deleted. |

### (4) Information about the events and errors is displayed.

#### "Alarm suspend [ALARM SUSPEND]" button

| | |
|---|---|
| ○ ALARM SUSPEND | : Clicking this button to temporarily disable alarm detection (page 34). |
| ● ALARM SUSPEND | : This indication will be displayed while an alarm is being suspended. |

#### "Alarm [ALM]" button

| | |
|---|---|
| ALM | : Displays when an event occurs. Clicking this button clears the alarm action (page 34). |

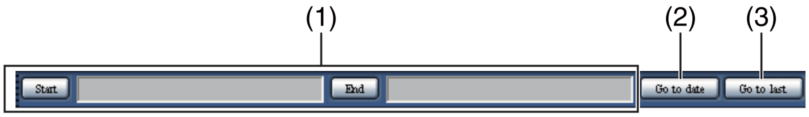
#### "Error [ERR]" button

| | |
|---|---|
| ERR | : An error has occurred. Clicking this button clears the error occurrence. Refer to page 55 for details about errors. |

**Note:**

- Emergency recording does not stop even if you click the "Alarm [ALM]" button while recording. However, recording does stop if the recording time is set to [Continue] for emergency recording.

## Playback point operation area



### (1) Displays the time and date for the download start point/ending point. (page 42)

[Start] : Set the time and date to start the image to be downloaded.

[End] : Set the time and date to end the image to be downloaded.

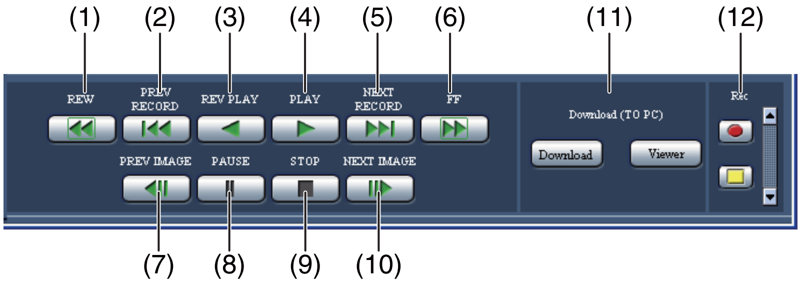
### (2) [Go to date] button

Used to playback images from a specified time and date. (page 22).

### (3) [Go to last] button

Skips to the latest recorded image on the displayed camera channel and starts playback.

## [HDD] tab



### (1) [REW] button

Plays recorded images in reversely at high speed.

Each time the button is clicked, the reverse speed changes Step 2 (4x) > Step 3 (8x) > Step 4 (16x) > Step 5 (32x) > Step6 (48x) > Step 7 (96x).

### (2) [PREV RECORD] button

Skips backward to play back recorded images.

### (3) [REV PLAY] button

Plays recorded images in reverse.

### (4) [PLAY] button

Plays recorded images.

### (5) [NEXT RECORD] button

Skips forward to play back recorded images.

### (6) [FF] button

Plays recorded images at high speed.

Each time the button is clicked, the speed changes Step 2 (4x) > Step 3 (8x) > Step 4 (16x) > Step 5 (32x) > Step6 (48x) > Step 7 (96x).

### (7) [PREV IMAGE] button

Clicking during playback or pause plays back one frame at a time reversely, and then pauses.

### (8) [PAUSE] button

Clicking during playback pauses playback.

Clicking during pause restarts playback.

### (9) [STOP] button

Stops playback and displays live images from the camera.

### (10) [NEXT IMAGE] button

Clicking during playback or pause plays back one frame at a time forward and then pauses.

### (11) [Download (TO PC)] box

Downloads the image being played to the PC.

[Download] : Images and audio can be downloaded.

[Viewer] : Downloads viewer software for playing back downloaded images.

### (12) [Rec] box

Click [Up] button to display the [Recording] and [Recording stop] buttons.

Click [Down] button to hide the [Recording] and [Recording stop] buttons.

| | | |
|---|---|---|
| ● | [Recording] button | : Starts recording manually. |
| ■ | [Recording stop] button | : Stops recording manually. |

**Important:**

- When displaying the [Recording] or [Recording stop] buttons, click and hold [Up] button until displayed.

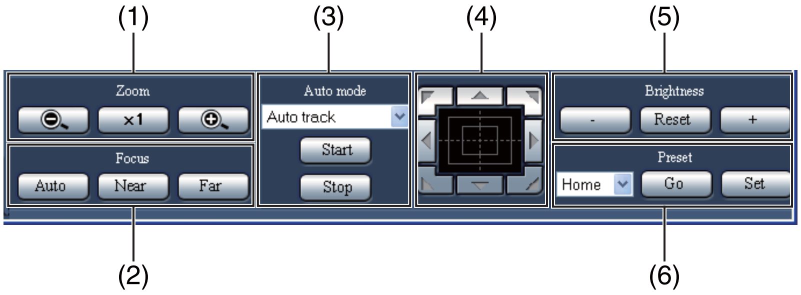
**Note:**

- The operations are as follows when the image for playback is an MPEG-4 image.

| | |
|---|---|
| Date/Time Search | Playback may start a few seconds before or after the specified time. |
| Reverse Playback | Not all recorded images are displayed. Reverse playback is performed at the refresh rate set for the camera at the time of recording. |
| Playback During Playback | Performing the playback operations again during playback skips ahead a few seconds. |
| Single Frame Reverse | Not all recorded images are displayed. Single frame reverse is performed at the refresh rate set for the camera at the time of recording. |
| Fast Forward/Fast Reverse | Not all recorded images are displayed. Fast forward and fast reverse are performed at the refresh rate set for the camera at the time of recording. |
| Downloading Images During Playback | Image may be saved including a few seconds before the starting time and date and a few seconds after the ending time and date. |

## [CAM] tab

The camera can be controlled (pan/tilt, zoom, focus, brightness, preset, auto mode) when the live image is from a camera that can pan and tilt. Some camera operations cannot be done depending on the type of camera connected.



### (1) [Zoom] box

Click [-] or [+] to adjust the zoom. Click [x1] to return the zoom to normal.

### (2) [Focus] box

Click [Near] or [Far] to adjust the image focus.

Click [Auto] to adjust the focus automatically (auto focus).

### (3) [Auto mode] box

Select the camera's auto mode function. Click [V] and select an auto mode function (auto track, auto pan, preset sequence, sort, patrol), and then click [Start]. Click [Stop] to turn off the auto mode function.

### (4) Control pad/buttons

Click the buttons on the control pad to move the camera to the direction of the button (pan/tilt). Also, click in the control pad to adjust the horizontal/vertical position (pan/tilt) of the image. The pan/tilt movement increases if a clicked point gets farther from the center point of the control pad.

### (5) [Brightness] box

Click [-] (Dark) or [+] (Bright) to adjust the lens iris (brightness).

Click [Reset] to reset the brightness.

### (6) [Preset] box

#### [Go] button

The camera moves to the pre-registered preset position. Click [V], select a preset number ([Home], 1 to 256), and then click [Go]. To perform the preset operation, register the camera's preset positions in advance.

#### [Set] button

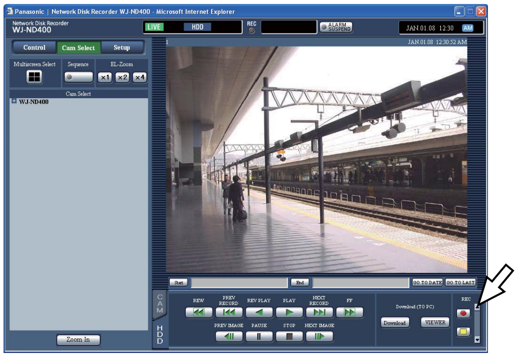
Register preset positions that specify the direction of the camera. Move the camera to the direction to register, click [V], select a preset number (1 to 256), and then click [Set] ([Home] cannot be registered.).

## Manual recording of images and audio

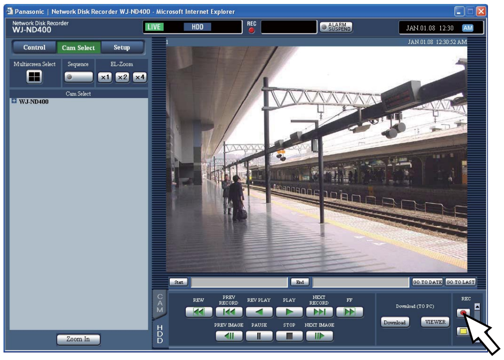
You can set the recorder for manual recording of images and audio.

Check with your system administrator about the manual recording settings.

1. **Click the [HDD] tab.**
2. **Click the [Up] button in the [Rec] box.**
   Click the [Up] button until the [Recording] and [Recording stop] button are displayed.



3. **Click the [Recording] button.**
   The [REC] indicator in the status display area lights (red), and recording starts.



4. **Click the [Recording stop] button.**
   The [REC] indicator in the status display area turns off, and recording stops.

---

**Note:**

- When recording in a recording mode that has a higher priority than Manual, Manual recording goes to standby until the other recording finishes. Refer to the "Recording mode and priority" (table) for information about access priority.
- When recording in modes other than Manual recording (Emergency recording, Event recording, or Schedule recording), recording continues even if you press the [Recording stop] button.
- It is impossible to record images when images are not being received from cameras.

## Recording mode and priority

The recorder has 5 recording modes. The access priority of the recording modes is shown below. Images are recorded in the highest priority mode when two or more recordings with different recording modes started simultaneously, only recording with the highest priority will start.

| Priority | Recording mode |
|---|---|
| 1 | Emergency recording |
| 2 | Post-event recording |
| 3 | Manual recording |
| 4 | Schedule recording |
| 5 | Pre-event recording |

## Audio recording

Audio can be recorded together with images. Audio recording can be set for each of the camera channels. Refer to the Setup Instructions (PDF file) for more information.

---

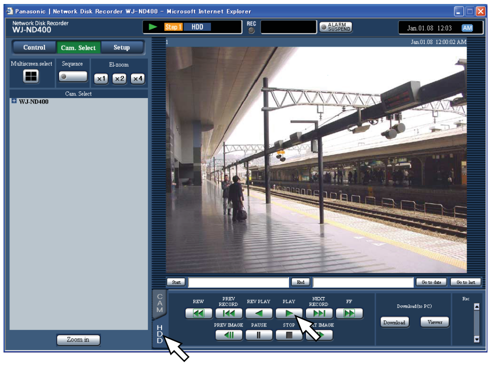
**Note:**

- Audio recording without images cannot be done. Only image can be recorded.
- Audio recording and SD memory recording cannot be done at the same time. When recording rate of the SD memory recording is set to other than [Off], audio recording for that camera channel is automatically turned [Off].

## Playback recorded images

Play back recorded images. There are three ways to play recorded images, specify a time and date, specify search conditions, or select a disk.

**1** **Click the [HDD] tab.**


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Step 1
HDD
REC
ALARM SUSPEND
Jan.01.08 12:03
AM
Control
Cam. Select
Setup
Multiscreen select
Sequence
El-zoom
×1
×2
×4
Cam. Select
WJ-ND400
Jan.01.08 12:00:02 AM
Start
End
Go to date
Go to last
CAM
HDD
REW
PREV RECORD
REV PLAY
PLAY
NEXT RECORD
FF
PREV IMAGE
PAUSE
STOP
Download(to PC)
Download
Viewer
Rec
Zoom in

**2** **Click the [PLAY] button.**

Plays recorded images. "Playback operation [Step 1]" is displayed in the status display area.

Playback will start from the finish point (time and date) of the last playback.

**3** **On the [HDD] tab, click the [STOP] button.**

"Playing [Step 1]" disappears from the status display area and playback is stopped.

- The live image from the camera is displayed in the Image display.

---

**Note:**

- The audio with the images is played when single screen is displayed.
- The audio from the upper-left camera channel is played when multiscreen are displayed.
- Play the most recent images the first time images are played after logging in. The default setting is to start playing 30 seconds before the most recent images. The settings for the playback start schedule are shown below.
  5s/10s/30s/1min/5min
  For information about settings, contact your system administrator.
- If multiple browsers and viewers are running at the same time, audio playback may not be correct.
  To play back the audio correctly, run either the browser or the viewer only.
- Playback may slow down or briefly stop if the load on the main unit is too large (many cameras are connected, many images are being played or shown etc.).
- When playing images on multiscreen, images will be played with frame dropping.
- When playing image recorded a different recording rate (one at a higher rate and the other at a lower rate) simultaneously on multiscreen, the difference between the displayed time for each channel will be widen.
- To play SD memory data, search for a recording event and select the images from the rec event list (page 24).
- Image and audio sometimes may not be synchronized.
- Click the [Cam. select] button while playing back images, click a camera title to change the camera channel.
- You can change to the multiscreen display by clicking the [Multiscreen select] button during playback.
- Click the camera title when viewing miltiscreen to view the clicked image on a single screen.

## Operations during playback

| Function | Button | Operation |
|---|---|---|
| Playback/reverse playback | ▶<br>◀ | • Plays recorded images.<br>• Plays recorded images in reverse.<br>**Note:**<br>• Clicking the [Play] or [Reverse play] button while recording at a low rate may not play the images being recorded either forward or reverse. |
| Stop | ■ | • Clicking during playback stops playback and displays the live image. |
| Pausing | II | • Clicking during playback pauses play back.<br>• Clicking while paused restarts playback. |
| Frame play/reverse frame play | II▶<br>◀II | • Clicking [NEXT IMAGE] during play or pause plays one frame at a time in forward, or pauses.<br>• Clicking [PREV IMAGE] during play or pause plays one frame at a time backward, or pauses.<br>**Note:**<br>• Not all recorded images are displayed if the image being played back is MPEG-4. Single frame reverse occurs at the refresh rate set for the camera. |
| Skip/reverse skip | ▶▶I<br>I◀◀ | • Clicking [NEXT RECORD] starts playing preceding images.<br>• Clicking [PREV RECORD] starts playing previous images.<br>• If the skip destination does not exist, playback continues. In this case, the play time may go back one minute. |
| Fast playback/fast reverse playback | ▶▶<br>◀◀ | • Each time the [FF] button is clicked, the speed changes, Step 2 (4x), Step 3 (8x), Step 4 (16x), Step 5 (32x), Step 6 (48x), Step 7 (96x).<br>• Each time the [REW] button is clicked, the reverse speed changes, Step 2 (4x), Step 3 (8x), Step 4 (16x), Step 5 (32x), Step 6 (48x), Step 7 (96x).<br>• Clicking the [PLAY] or [REV PLAY] button during fast forward or reverse changes the speed to normal speed.<br>**Note:**<br>• Not all recorded images can be displayed if the image being played back is MPEG-4. Fast forward/reverse is played back at the refresh cycle set on the camera. |
| Skip to the latest image | [Go to last] | • Skips to the latest image and starts playback. The default setting is to skip to 30 seconds before the most recent image.<br>The settings for skipping to the latest image are shown below.<br>5s/10s/30s/1min/5min<br>For information about settings, contact your system administrator.<br>**Note:**<br>• Clicking the [Go to last] button while recording at a low rate, the latest image being recorded may pause or may not be displayed. |

| Function | Button | Operation |
|---|---|---|
| Playback on a multiscreen | ⊞ | • Images being played back are displayed on a split screen (4-screen).<br>• Displays multiple images from up to 4 cameras at the same time. Each time the button is clicked, the 4 screens change. Refer to the Setup Instructions (PDF file) for information about camera group settings.<br>• To return to a single screen display, click the camera title in the [Cam. select] box or a camera title displayed in the image.<br>**Note:**<br>• The various channels may lose synchronization while viewing multiscreen. The times can be synchronized by pausing and then clicking the [PLAY] button again.<br>• Using the single frame function while multiscreen are displayed may cause discrepancies in the image of that channel. |
| Electronic zoom | ×1<br>×2<br>×4 | • Enlarge the size of the image.<br>Clicking the button in the [El-zoom] box while one screen is being displayed enlarges the image.<br>[x1] button: Digitally zooms image by 1x.<br>[x2] button: Digitally zooms image by 2x.<br>[x4] button: Digitally zooms image by 4x.<br>• The point where a zoomed image is clicked becomes the center of the screen. |
| Zoom in | [Zoom in] | • Enlarges images being played.<br>• Right click on the image being played, and select [Zoom in] from the menu that is displayed.<br>• To return from the zoomed display to the regular display, right click on the image being played, and select [BACK] from the menu that is displayed.<br>**Note:**<br>• When MPEG-4 image is enlarged, it may take the first few seconds for refresh interval of image. |

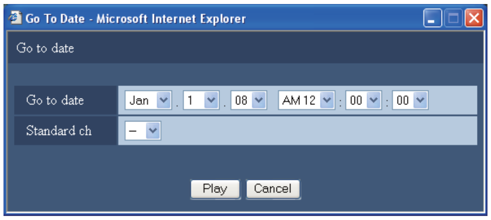
## Playback from a designated time and date

Playback images from a designated time and date. You can also playback while recording.

**1** **Click the [Cam. select] button.**
The camera list is displayed in the [Cam. select] box.

**2** **Click the camera channel you want to play back.**

**3** **Click the [Go to date] button on Playback Point Operation area.**
This displays the [Go to date] window.

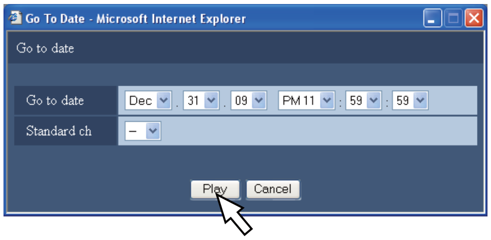

Go To Date - Microsoft Internet Explorer
Go to date
Play
Cancel

Go to date: Jan . 1 . 08 AM 12 : 00 : 00
Standard ch: --

**4** **Click the [V] button and select the time and date of the image to play back.**

- Standard channel

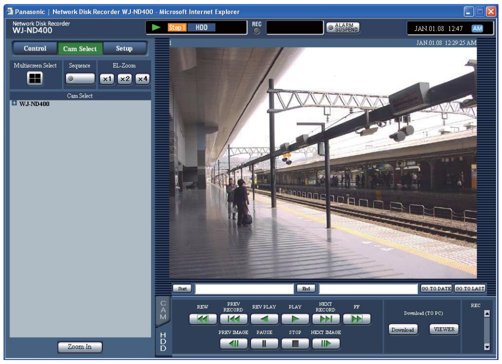
  If cameras are setup in multiple countries, you must set which camera channel time and date to use as standard. If the recorder and the camera are set in the same time zone, set to [--].


Go To Date - Microsoft Internet Explorer
Go to date
Play
Cancel

Go to date: Dec . 31 . 09 PM 11 : 59 : 59
Standard ch: --

**5** **Click the [PLAY] button.**
"Playing [Step 1]" is displayed in the status display area and images recorded at the designated time and date are played back.

- Refer to page 20 for information about operations during playback.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Step 1
HDD
REC
ALARM SUSPEND
JAN.01.08 12:47 AM
Control
Cam Select
Setup
Multiscreen Select
Sequence
EL-Zoom
×1
×2
×4
Cam Select
WJ-ND400
Zoom In
1
JAN.01.08 12:29:25 AM
Start
End
GO TO DATE
GO TO LAST
CAM
HDD
REW
PREV RECORD
REV PLAY
PLAY
NEXT RECORD
FF
PREV IMAGE
PAUSE
STOP
NEXT IMAGE
Download (TO PC)
Download
VIEWER
REC

**6** **On the [HDD] tab, click the [STOP] button.**
"Playing [Step 1]" disappears from the status display area and playback is stopped.

- The live image from the camera is displayed in the Image display.

**Note:**

- When an MPEG-4 image is being played back, playback may start from a point several seconds before or after the designated time and date.
- To playback SD memory data saved on the recorder, display the rec event list and search for the recorded event to playback (page 24).
  Playback is not possible by playing back from the designated time and date.
- Where there is no image for the designated time and date, the image closest to the entered time and date is played back.

## Search for and playback images

Search for and playback recorded events on the rec event list (rec event search).

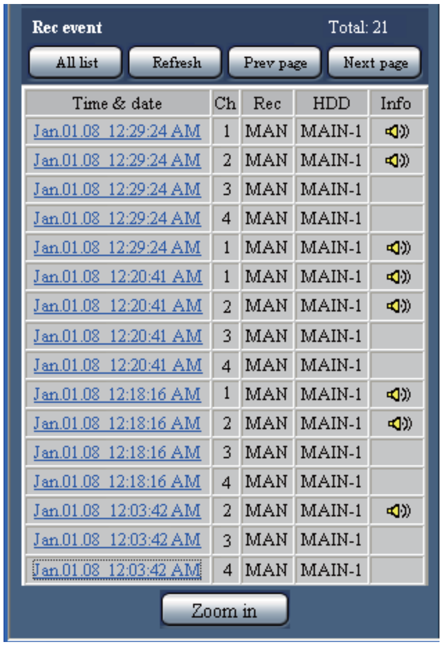
**Note:**

- When doing a rec event search, the area that can be searched depends on the disk area that is selected.
  Refer to page 26 for details about area selection.

## Filter conditions

| Filter Conditions | Search |
|---|---|
| Time and date | Select the starting and ending time and date to search for images recorded during that period. |
| Event | Search only for images of the selected recording mode. Select from the following recording modes.<br>• Manual [MAN] : Manual recording (page 18)<br>• Schedule [SCH] : Schedule recording (refer to the Setup Instructions (PDF file))<br>• Emergency [EMR] : Emergency recording (refer to the Setup Instructions (PDF file))<br>• Site alarm [CAM] : Records according to site alarms (refer to the Setup Instructions (PDF file))<br>• Terminal alarm [TRM] : Records according to terminal alarms (refer to the Setup Instructions (PDF file))<br>• Command alarm [COM] : Records according to command alarms (refer to the Setup Instructions (PDF file))<br>• SD memory recording [SD] : SD memory recording (refer to the Setup Instructions (PDF file)) |
| Camera | Searches selected camera channels. |

## Rec event list display



| Time & date | Ch | Rec | HDD | Info |
|---|---|---|---|---|
| Jan.01.08 12:29:24 AM | 1 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:29:24 AM | 2 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:29:24 AM | 3 | MAN | MAIN-1 | |
| Jan.01.08 12:29:24 AM | 4 | MAN | MAIN-1 | |
| Jan.01.08 12:29:24 AM | 1 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:20:41 AM | 1 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:20:41 AM | 2 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:20:41 AM | 3 | MAN | MAIN-1 | |
| Jan.01.08 12:20:41 AM | 4 | MAN | MAIN-1 | |
| Jan.01.08 12:18:16 AM | 1 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:18:16 AM | 2 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:18:16 AM | 3 | MAN | MAIN-1 | |
| Jan.01.08 12:18:16 AM | 4 | MAN | MAIN-1 | |
| Jan.01.08 12:03:42 AM | 2 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:03:42 AM | 3 | MAN | MAIN-1 | |
| Jan.01.08 12:03:42 AM | 4 | MAN | MAIN-1 | |

| | |
|---|---|
| Number of the list: data | Displays the total number of the listed data. When there are more than 10 000 logs, [>10000] is displayed. |
| [All list] button | : Removes any conditions and lists, all rec events are listed. |
| [Refresh] button | : Updates the display to the most current status. |
| [Prev page] button | : Displays the previous page of the list. |
| [Next page] button | : Displays the next page of the list. |
| [Time & date] | : Start time of recording will be displayed. |
| [Ch] | : Displays the channel of the recording camera. |
| [Rec] | : Displays the recording mode. |
| [HDD] | : Number of the disk where the recorded image is located. |
| [Info] | : Additional information will be displayed, when audio is attached. |

**Note:**

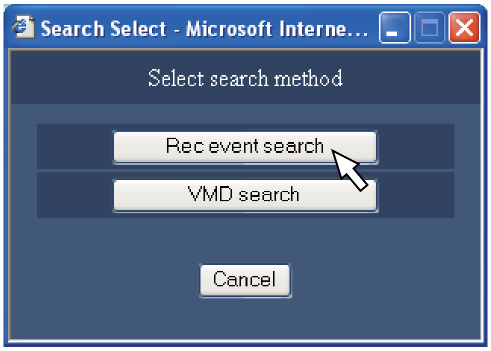
- The rec event list is displayed when the [Refresh] button is pressed, or when searching (page 24, page 25) or when selecting an area (page 26).
- The [All list] button is disabled during playback. Stop playback and then do the search operation.
- When there are many cameras, the recording start time may vary for each channel.

## Search for and playback recorded events

**1** **Click the [Control] button.**

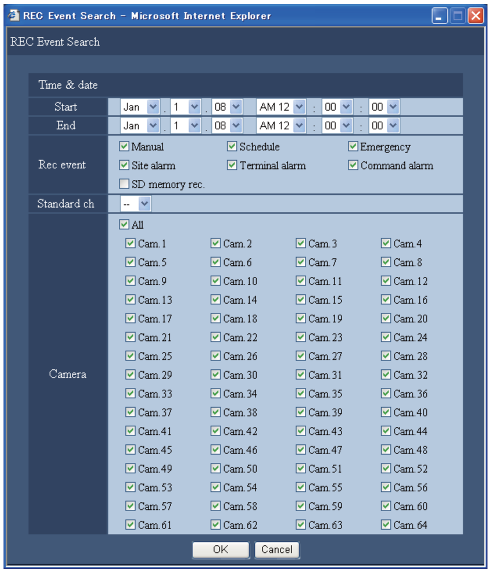
**2** **Click the [Search] button in the [Search] box.**

This will display the [Select search method] window.


Search Select - Microsoft Interne...
Select search method
Rec event search
VMD search
Cancel

**3** **Click the [Rec event search] button.**

This displays the [Rec event search] window.


REC Event Search - Microsoft Internet Explorer
REC Event Search
OK
Cancel

Time & date

Start: Jan . 1 . 08 AM 12 : 00 : 00

End: Jan . 1 . 08 AM 12 : 00 : 00

Rec event: ☑ Manual ☑ Schedule ☑ Emergency ☑ Site alarm ☑ Terminal alarm ☑ Command alarm ☐ SD memory rec.

Standard ch: --

Camera: ☑ All

☑ Cam. 1 ☑ Cam. 2 ☑ Cam. 3 ☑ Cam. 4
☑ Cam. 5 ☑ Cam. 6 ☑ Cam. 7 ☑ Cam. 8
☑ Cam. 9 ☑ Cam. 10 ☑ Cam. 11 ☑ Cam. 12
☑ Cam. 13 ☑ Cam. 14 ☑ Cam. 15 ☑ Cam. 16
☑ Cam. 17 ☑ Cam. 18 ☑ Cam. 19 ☑ Cam. 20
☑ Cam. 21 ☑ Cam. 22 ☑ Cam. 23 ☑ Cam. 24
☑ Cam. 25 ☑ Cam. 26 ☑ Cam. 27 ☑ Cam. 28
☑ Cam. 29 ☑ Cam. 30 ☑ Cam. 31 ☑ Cam. 32
☑ Cam. 33 ☑ Cam. 34 ☑ Cam. 35 ☑ Cam. 36
☑ Cam. 37 ☑ Cam. 38 ☑ Cam. 39 ☑ Cam. 40
☑ Cam. 41 ☑ Cam. 42 ☑ Cam. 43 ☑ Cam. 44
☑ Cam. 45 ☑ Cam. 46 ☑ Cam. 47 ☑ Cam. 48
☑ Cam. 49 ☑ Cam. 50 ☑ Cam. 51 ☑ Cam. 52
☑ Cam. 53 ☑ Cam. 54 ☑ Cam. 55 ☑ Cam. 56
☑ Cam. 57 ☑ Cam. 58 ☑ Cam. 59 ☑ Cam. 60
☑ Cam. 61 ☑ Cam. 62 ☑ Cam. 63 ☑ Cam. 64

**4** **Conditions for filtering.**

- Time & date

  Filter by time and date. Click the [V] button and select the starting and ending time and date.
- Rec event

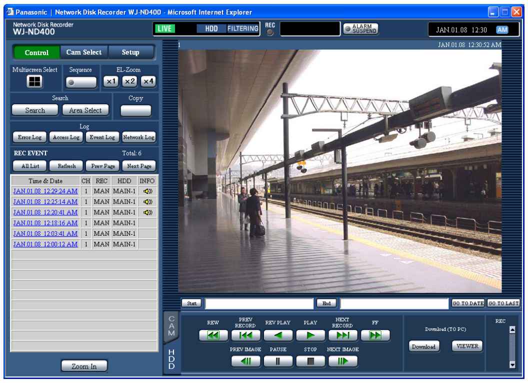
  Filter by recording event by clicking the recording event to search for.
- Selecting [SD memory rec.] clears all selections other than SD memory data. Selecting something other than [SD memory rec.] clears the SD memory data selection.
- Standard ch

  If cameras are setup in multiple countries, you must set which camera channel time and date to use as standard. If the recorder and the camera are set in the same time zone, set to [--].
- Camera

  Filter by camera channel by selecting the check box of the camera channel to search.

**5** **Click the [OK] button.**

- [FILTERING] is displayed on the status display area and the filtered results are displayed.
- This displays the search results on the rec event list window.
- To clear the filter, click the [All list] button. All events are displayed and [FILTERING] disappears.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
LIVE
HDD
FILTERING
REC
ALARM SUSPEND
JAN.01.08 12:30 AM
Control
Cam Select
Setup
Multiscreen Select
Sequence
EL-Zoom
×1
×2
×4
Search
Search
Area Select
Copy
Log
Error Log
Access Log
Event Log
Network Log
All List
Refresh
Prev Page
Next Page
Zoom In
1
JAN.01.08 12:30:52 AM
Start
End
GO TO DATE
GO TO LAST
CAM
HDD
REW
PREV RECORD
REV PLAY
PLAY
NEXT RECORD
FF
PREV IMAGE
PAUSE
STOP
NEXT IMAGE
Download (TO PC)
Download
VIEWER
REC

REC EVENT Total: 6

| Time & Date | CH | REC | HDD | INFO |
|---|---|---|---|---|
| JAN.01.08 12:29:24 AM | 1 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:25:14 AM | 1 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:20:41 AM | 1 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:18:16 AM | 1 | MAN | MAIN-1 | |
| JAN.01.08 12:03:41 AM | 1 | MAN | MAIN-1 | |
| JAN.01.08 12:00:12 AM | 1 | MAN | MAIN-1 | |

**6** **Click the recorded event time to playback.**

The image at the selected recorded event time is played back.

- Refer to page 20 for information about operations during playback.

**7** **On the [HDD] tab, click the [STOP] button.**

Stops playback.

---

**Note:**

- Playback of SD memory data

  If there are only a few images recorded during a single event, they may not play back correctly (black screens may appear or refreshing may take a long time). If this happens, you can use next frame/previous frame to display the images.
- Playback of SD memory data on multiscreen

  If the images are not played back correctly on multiscreen, play them on a single screen.

## Search for and playback images with motion at a specific time and date (VMD search)

Search for images with motion on a specific time and date from images recorded by cameras that support VMD search and view them in a list. Select and playback images of a specified time and date from the results list.

**Important:**

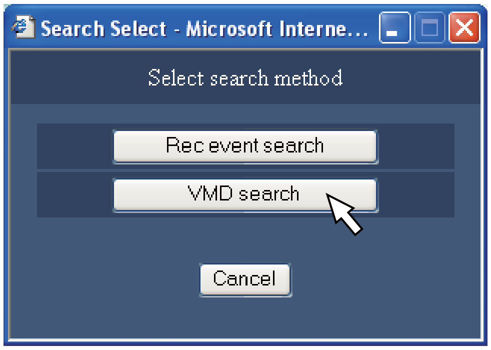
- To do a VMD search, the cameras that support VMD search need to be set in advance.
  Refer to the "readme.txt" file on the CD-ROM bundled with the recorder for information about the camera models that support VMD search.
  For details refer to the operating instructions for the camera.

**1** **Click the [Control] button.**

**2** **Select the camera showing the live image you want to search for or playback.**

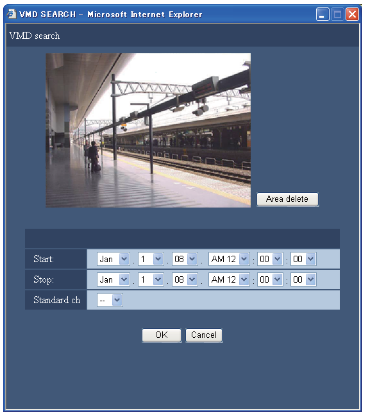
**3** **Click the [Search] button in the [Search] box.**

This will display the [Select search method] window.


Search Select - Microsoft Interne...
Select search method
Rec event search
VMD search
Cancel

**4** **Click the [VMD search] button.**

The [VMD search] window is displayed.


VMD SEARCH - Microsoft Internet Explorer
VMD search
Area delete
OK
Cancel

Start: Jan 1 08 AM 12 00 00
Stop: Jan 1 08 AM 12 00 00
Standard ch: --

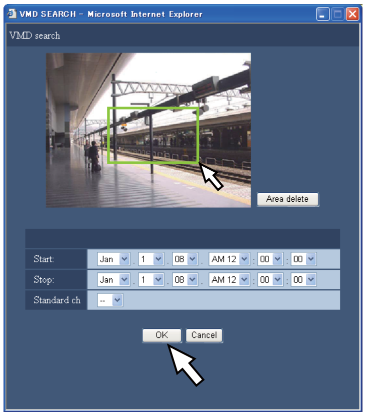
**Note:**

- Live images are shown live and recorded images are shown paused in the image area.

**5** **Click the [V] button and set the date range and the basic channel for the VMD search.**

**6** **Set the area for the motion search.**

Specify the area by dragging the mouse on the area of the image.


VMD SEARCH - Microsoft Internet Explorer
VMD search
Area delete
OK
Cancel

Start: Jan 1 08 AM 12 00 00
Stop: Jan 1 08 AM 12 00 00
Standard ch: --

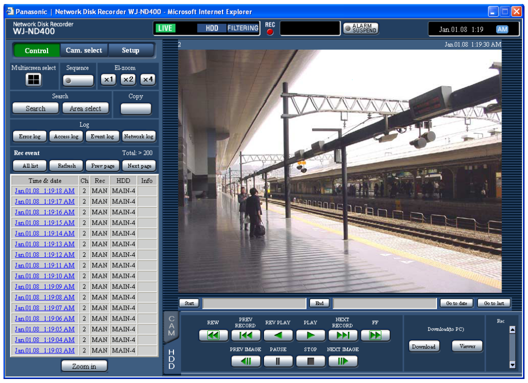
**7** **Click the [OK] button.**

Searching starts.

- This displays the search results on the rec event list window.
- Searching may take a while.

**Important:**

- In the list of VMD search results, the [Info] audio information icon is not displayed even if audio is attached to the file.
- You cannot do VMD searches of SD memory or pre-event recording data.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
LIVE
HDD
FILTERING
REC
Control
Cam. select
Setup
Multiscreen select
Sequence
El-zoom
Search
Area select
Copy
Log
Rec event
Zoom in

**8** **Click the recorded event time to playback.**

The image at the selected recorded event time is played back.

- Refer to page 20 for information about operations during playback.
- Images are played back in 1-screen only. Click the [Multiscreen select] button after playback has started to display images in multiscreen.

**9** **Click the [STOP] button.**

Stops playback.

**Note:**

- When doing a VMD search in the multiple image screen, the upper-left image is searched.
- If you do a VMD search during sequence operations, the sequence operation stops.

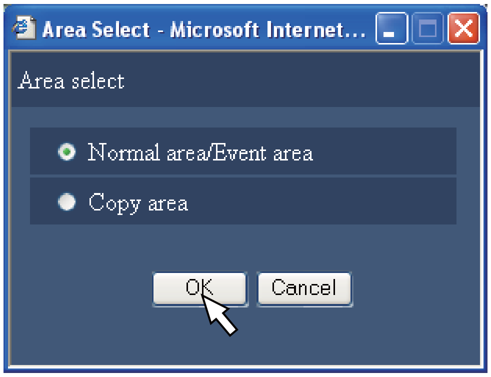
## Select an area to play back

Playback camera images saved in the Normal recording area, Event recording area, and Copy area on the HDDs.

**1** **Click the [Control] button.**

**2** **Click the [Search] button in the [Area select] box.**
This will display the [Area select] window.

- The Area select window is not displayed during playback.



Area Select - Microsoft Internet...

Area select

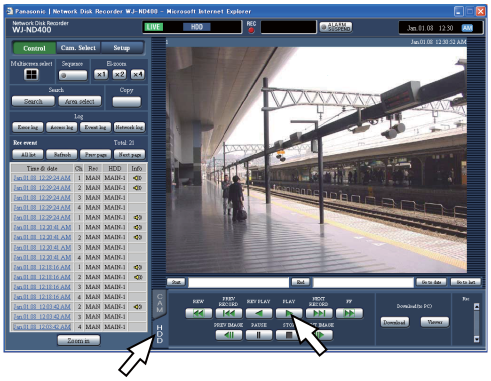
● Normal area/Event area

○ Copy area

**3** **Select the check box for the area to be played back.**

- Normal area/Event area
- Copy area

**4** **Click the [OK] button.**
The selected disk is displayed in the status display area.



Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
WJ-ND400
LIVE
HDD
Control
Cam. Select
Setup
Search
Area select
Zoom in
REW
PREV RECORD
REV PLAY
PLAY
NEXT RECORD
FF
PAUSE
STOP
Download
Viewer

**5** **Click the [HDD] tab.**

**6** **Click the [PLAY] button.**
"Playing [Step 1]" is displayed in the status display area and the recorded images on the selected disk are played back.

- Refer to page 20 for information about operations during playback.

**7** **Click the [STOP] button.**
Stops playback.

- "Playing [Step 1]" disappears from the status display area and a live image from the camera is displayed in the Image display.
- If you press the [PLAY] button after stopping playback, playback resumes from the time and date when playback was stopped.

# Live images

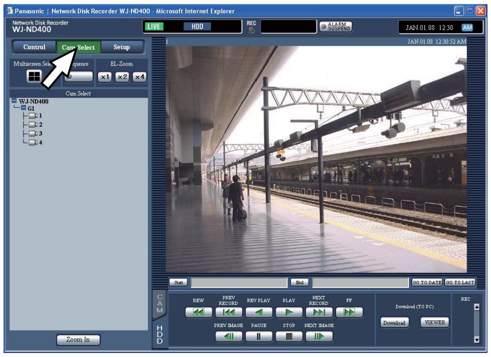
Live images from a camera are displayed on a web browser. The live images from the cameras can be displayed on a web browser in one or multiscreen.

Images can also be automatically displayed in a sequence.

## 1-screen display

1 **Click the [Cam. select] button.**

The camera list is displayed in the [Cam. select] box.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
LIVE
HDD
REC
ALARM SUSPEND
JAN.01.08 12:30 AM
Control
Cam Select
Setup
Multiscreen Select
Sequence
EL-Zoom
×1
×2
×4
Cam Select
WJ-ND400
G1
1
2
3
4
Zoom In
1
JAN.01.08 12:30:52 AM
Start
End
GO TO DATE
GO TO LAST
CAM
HDD
REW
PREV RECORD
REV PLAY
PLAY
NEXT RECORD
FF
PREV IMAGE
PAUSE
STOP
NEXT IMAGE
Download (TO PC)
Download
VIEWER
REC

---

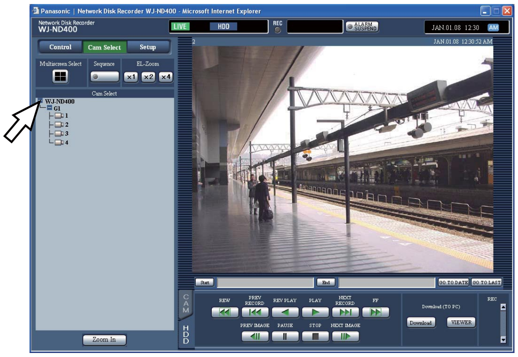
**Note:**

- About Selecting a Camera
  Click [WJ-ND400] to display the group titles of the cameras set on the recorder. Clicking a group title displays the cameras that belong to that group. Clicking a camera's title displays that camera's image.
- About selecting a camera from the right-click menu
  You can change the image by right clicking on the image and selecting a camera from the menu that appears.

---

2 **Click [WJ-ND400] and select in order the camera group title and camera title.**

The live image from the selected camera channel is displayed.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
LIVE
HDD
REC
ALARM SUSPEND
JAN.01.08 12:30 AM
Control
Cam Select
Setup
Multiscreen Select
Sequence
EL-Zoom
×1
×2
×4
Cam Select
WJ-ND400
G1
1
2
3
4
Zoom In
2
JAN.01.08 12:30:52 AM
Start
End
GO TO DATE
GO TO LAST
CAM
HDD
REW
PREV RECORD
REV PLAY
PLAY
NEXT RECORD
FF
PREV IMAGE
PAUSE
STOP
NEXT IMAGE
Download (TO PC)
Download
VIEWER
REC

## Useful functions while images are displayed

| Function Name | Button | Operation |
|---|---|---|
| Electronic zoom* | ×1<br>×2<br>×4 | • Enlarges live images.<br>Clicking the button in the [El-zoom] box while one screen is being displayed enlarges the image.<br>[x1] button: Digitally zooms image by 1x.<br>[x2] button: Digitally zooms image by 2x.<br>[x4] button: Digitally zooms image by 4x.<br>• The point where a zoomed image is clicked becomes the center of the screen. |
| Zoom in | [Zoom in] | • Enlarges live images.<br>• To zoom in to the image, right click on the image, and select [ZOOM IN] from the menu that is displayed.<br>• To return from the zoomed display to the regular display, right click on the image being played, and select [BACK] from the menu that is displayed.<br>**Note:**<br>• When MPEG-4 image is enlarged, it may take the first few seconds for refresh interval of image. |
| Skip to the latest image | [Go to last] | By clicking on a displayed live image, you can skip to and playback the latest image on that camera channel. Refer to page 15 for more information. |

* This operation is only available when 1 screen is displayed.

## Camera control

The following camera operations are available when live images from a camera with the pan and tilt function are displayed on a single screen. Operations may not be possible depending on the model of the connected camera.

Pan & tilt : Adjust the cameras horizontal and vertical position.

Zoom : Zoom in/out the image.

Focus : Adjust the focus point of the image.

Brightness : Adjust the lens iris. (brightness)

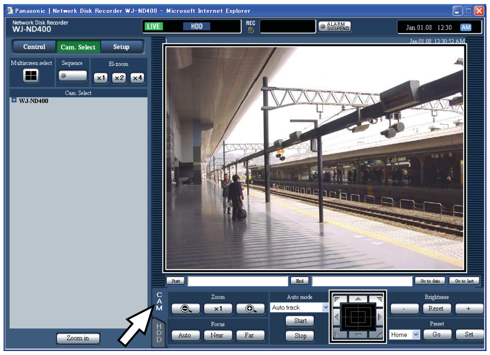
Preset operations : Registers the preset position of camera. / Moves the camera to the registered preset positions.

Auto : Select the camera's automatic mode function.

### Pan & tilt operations

Adjust the camera image's horizontal and vertical position.

**1** **Click the [CAM] tab.**


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
LIVE
HDD
REC
Control
Cam. Select
Setup
Multiscreen select
Sequence
El-zoom
x1
x2
x4
Cam. Select
WJ-ND400
Zoom in
CAM
HDD
Zoom
Focus
Auto
Near
Far
Auto mode
Auto track
Start
Stop
Brightness
Reset
Preset
Home
Go
Set

Control button : Click to adjust the direction of the camera.

Control pad : Click to adjust the direction of the camera. If a clicked point gets farther from the center point of the control pad.

Image display area : Click the desired point to be center of the field angle in the displayed image. The camera direction moves to the position you clicked.

### Zoom, focus, brightness operations

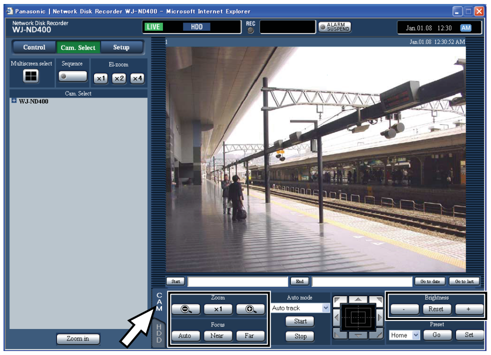
Adjust the zoom, focus, and brightness of the image.

Zoom : Adjust the size of the image. The degree of zoom depends on the type of camera. For details refer to the operating instructions for the camera.

Focus : Adjust the focus point of the image. The focus point can be adjusted automatically (auto focus).

Brightness : Adjust the lens iris (brightness). The lens iris can also be reset.

**1** **Click the [CAM] tab.**


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
LIVE
HDD
REC
Control
Cam. Select
Setup
Multiscreen select
Sequence
El-zoom
x1
x2
x4
Cam. Select
WJ-ND400
Zoom in
CAM
HDD
Zoom
Focus
Auto
Near
Far
Auto mode
Auto track
Start
Stop
Brightness
Reset
Preset
Home
Go
Set

- Zoom

  Click the [-] or [+] button in the [Zoom] box to adjust the zoom.

  Click the [x1] button to reset the zoom.
- Focus

  Click the [Near] or [Far] button in the [Focus] box to adjust the focus.

  Clicking the [Auto] button to do set focus automatically.
- Brightness

  Click the [-] (Dark) or [+] (Bright) button in the [Brightness] box to adjust the lens iris (brightness).

  Click the [Reset] button to return brightness to normal.

---

**Note:**

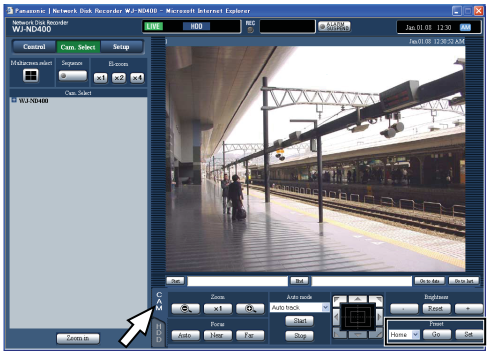
- You can also adjust the zoom by using the mouse wheel button.

---

## Registration of a camera direction on the preset position.

The current camera direction can be registered on the specified preset position. Registered preset positions can be used with a camera supporting the preset position function.

**1** **Click the [CAM] tab.**


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
WJ-ND400
Control
Cam. Select
Setup
Zoom
Auto mode
Start
Stop
Focus
Brightness
Preset
Home
Go
Set

**2** **Perform the camera's pan and tilt operation to move the camera to the position to be registered.**

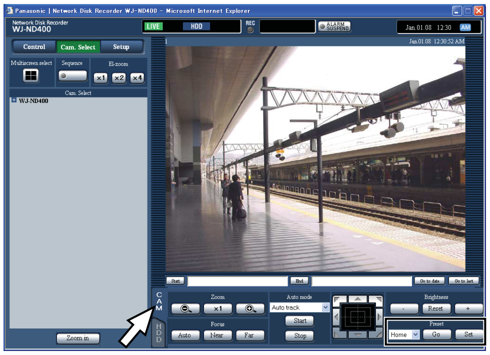
**3** **Click the [V] button in the [Preset] box and select the preset number (1 to 256) you want to register. [Home] cannot be registered.**

**4** **Click the [Set] button.**
The selected preset number is registered.

## Move a camera to the preset position.

Move a camera to the preset position registered in advance. Registering preset positions is required to perform the preset function.

**1** **Click the [CAM] tab.**


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
WJ-ND400
Control
Cam. Select
Setup
Zoom
Auto mode
Start
Stop
Focus
Brightness
Preset
Home
Go
Set

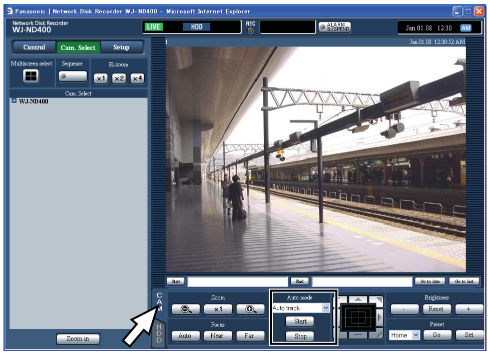
**2** **Click the [V] button in the [Preset] box and select the preset number (Home, 1 to 256) to be moved.**

**3** **Click the [Go] button.**
The camera moves to the position that was registered as the preset position for that number.

## Auto mode function (Auto pan etc.)

Operates the auto functions set for the camera.

**1** **Click the [CAM] tab.**


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
WJ-ND400
Control
Cam. Select
Setup
Zoom
Auto mode
Auto track
Start
Stop
Focus
Brightness
Preset
Home
Go
Set

**2** **Click the [V] button in the [Auto mode] box and select the auto mode (auto tracking, auto pan, preset sequence, sort, patrol) you want to start.**

**3** **Click the [Start] button in the [Auto mode] box to start the auto mode function.**
To turn off the auto mode function, click [Stop].

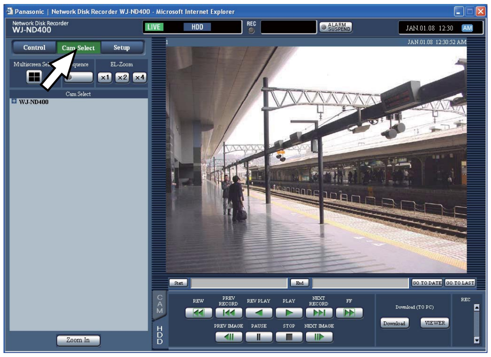
**Note:**

- For information about camera's auto mode functions, refer to the camera's operating instructions.

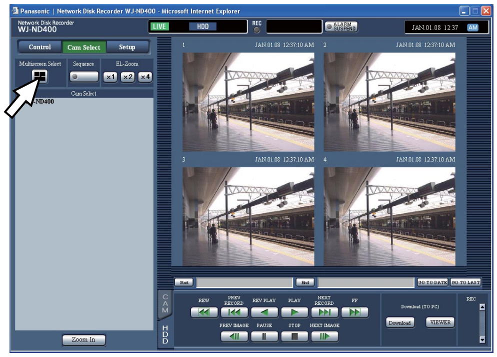
## 4-screen (Multiscreen)

Images from cameras will be displayed on a 4-screen.

1. **Click the [Cam. select] button.**



2. **Click the [Multiscreen select] button.**
   Images from cameras will be displayed on a 4-screen.
   - Switch between the preset 4-screen camera combinations with each click of the [Multiscreen select] button (refer to the Setup Instructions (PDF file)).



3. **Click the camera title in the [Cam. select] box or the camera title displayed on the image.**
   Returns to 1-screen Display.

**Note:**

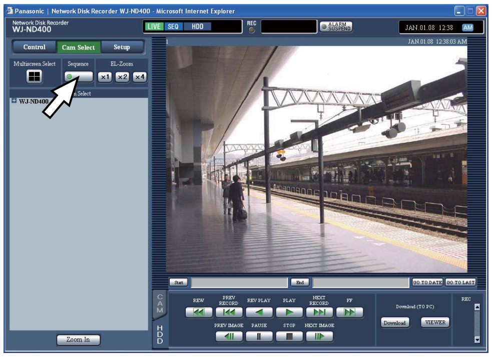
- About starting multiscreen display from the right-click menu
  You can change to multiscreen display by right clicking on the image and selecting "multiscreen [1 - 4]" from the menu that appears.
- About zooming the display from the right-click menu
  To zoom in to the 4-screen, right click on the 4-screen, and select [ZOOM IN] from the menu that is displayed.
- When the [Go to last] button is clicked while displaying live images, playback of the latest recorded images from the selected camera channel will start. (It is available to select a time to be skipped when the [Go to last] button is clicked. Default: 30 seconds)
- The audio of the upper-left camera channel will be heard when multiscreen are displayed.
- When performing a VMD search (page 25) on the multiscreen, the upper-left image is searched.

## Display switching (Sequence)

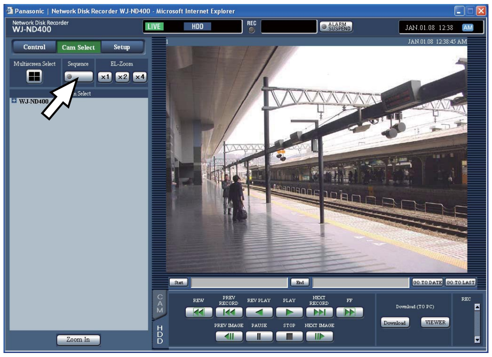
Automatically switches the camera image. Refer to page 28 for information about this handy function for use while images are displayed.

1. **Click the [Cam. select] button.**

2. **Click the [Sequence] button.**
   Live images are displayed in sequence according to the preset sequence operation settings.
   - The [Sequence] button indicator lights green and [SEQ] is displayed on the status display area.



3. **Click the [Sequence] button.**
   The [Sequence] button indicator goes out and the sequence operation is stopped.



**Note:**

- If you perform VMD search (page 25), 1-screen (page 27), or 4-screen (page 25) during sequence operations, the sequence operation will stop.
- When an image in the sequence cannot be displayed, the image for the next step is displayed. (MPEG-4 image is also unavailable to display. It will be skipped automatically.)
- When the [Go to last] button is clicked while displaying images sequentially, playback of the latest recorded images from the selected camera channel will start. (It is available to select a time to be skipped when the [Go to last] button is clicked. Default: 30 seconds)
- About starting sequence operations from the right-click menu
  You can start sequence operations by right clicking on the image and selecting [SEQ] from the menu that appears. You can also stop sequence operation by selecting [SEQ] during sequence operation.
- About zooming the display from the right-click menu
  If you zoom in to the image by right clicking on the image, and selecting [ZOOM IN] from the menu that is displayed during sequence operation, the sequence operation will stop.
- Audio stops during sequence operations.

# Event

The recorder's alarm action starts according to the settings when an event occurs. The event function includes, terminal alarms, command alarms, and site alarms. Refer to the Setup Instructions (PDF file) for information about event functions.

## Event functions

### About Events

Event action will be performed when some events occur.

Events include, terminal alarms, site alarms, and command alarms.

For example, if a camera sends a site alarm, the recorder receives the alarm and an event occurs.

### About event action

Event action is the action done when an event occurs.

Depending on the settings event action include, recording images, recording logs, sending external notification (mail notification, LED, buzzers, transmitting to FTP and others). Here, action that send external notifications are called alarms.

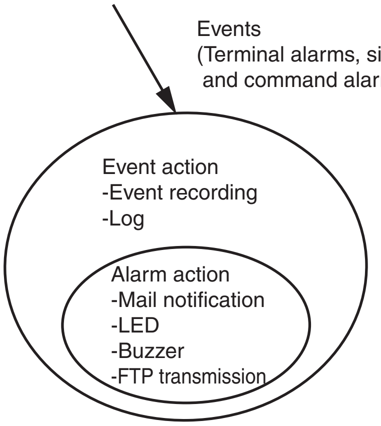


Image of event/alarm action

The recorder starts an event according to the settings when the following events occur.

- Terminal Alarm : Signals from door sensors or other external devices are transmitted through the alarm terminal on the rear panel of the recorder.
- Command Alarm : Receives command alarms from PCs via a network.
- Site Alarm : Receives the Panasonic alarm protocol from network cameras.

### Event action include the following.

- Start recording images

  Recording is done according to the recording duration and rate settings on the setup menu (refer to Setup Instructions (PDF file)). The images from a camera before an event occurs can be recorded and linked to the event (pre-event recording).
- Display alarm messages

  A pop-up window appears to indicate an event has occurred.
- Alarm indicator blinks

  Alarm indicator on the front of the recorder blinks.
- Buzzer sounds

  The buzzer sounds according to the settings on the setup menu (refer to the Setup Instructions (PDF file)).
- The camera goes to its preset position.

  The camera moves to a pre-registered preset position. Refer to "Camera control (page 29)" for information about registering preset positions.
- Notify of an event occurrence by sending e-mails

  Alarm mail (notification of the time and date of an event) is sent to registered e-mail addresses when an event occurs. A JPEG image can be attached to this e-mail. Up to 4 addresses can be registered to receive the alarm mail. Refer to the Setup Instructions (PDF file) for information about settings.
- Alarm signal output from the Alarm/Control connector on the rear panel of the recorder (Alarm output)

  When an event occurs, a signal is output from the Alarm/Control connector on the rear panel of the recorder to sound the buzzar. The time the signal is output is set on the setup menu (refer to the Setup Instructions (PDF file)).
- Event log is recorded

  When an event occurs, the type of event and the time it occurred are recorded in an event log.
- Images recorded during events are sent to an FTP server

  When an event occurs, images are recorded from when the event starts for a set period of time and are automatically sent to an FTP server. Refer to the Setup Instructions (PDF file) for information about settings.
- A PC is notified of an alarm according to Panasonic alarm protocol settings

  When an event or error occurs, a PC is automatically notified regarding event or error information according to the [Panasonic alarm protocol] settings. Install the software (option) on the PC designated to receive and display event or error notification.

  Refer to the "readme.txt" file on the CD-ROM for details about the software.

# Operations during an event

When an event occurs and is recognized by the recorder, alarm action starts according to the settings. Refer to page 33 for information about alarm action.

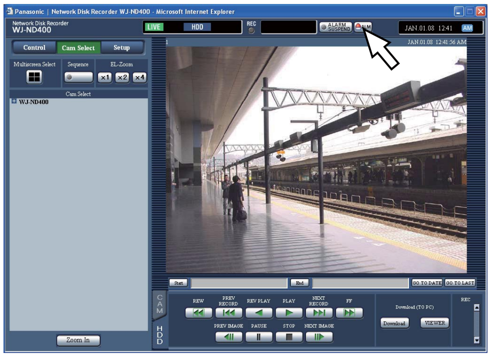
**Note:**

- When an event occurred and the corresponding camera's compression method is "MPEG-4", event recording may start from a point several seconds after the event occurrence and the recording duration may be shortened for several seconds.

## Canceling alarm action

Alarm action starts according to the settings when an event occurs. You can also manually cancel the alarm action.

**1** **When an event occurs, the "Alarm [ALM]" button is displayed on the status display area.**


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
LIVE
HDD
REC
ALARM SUSPEND
ALM
JAN.01.08 12:41
AM
Control
Cam Select
Setup
Multiscreen Select
Sequence
EL-Zoom
×1
×2
×4
Cam Select
WJ-ND400
1
JAN.01.08 12:41:56 AM
Start
End
GO TO DATE
GO TO LAST
CAM
HDD
REW
PREV RECORD
REV PLAY
PLAY
NEXT RECORD
FF
PREV IMAGE
PAUSE
STOP
NEXT IMAGE
Download (TO PC)
Download
VIEWER
REC
Zoom In

**2** **Click the "Alarm [ALM]" button.**
The alarm action is canceled.

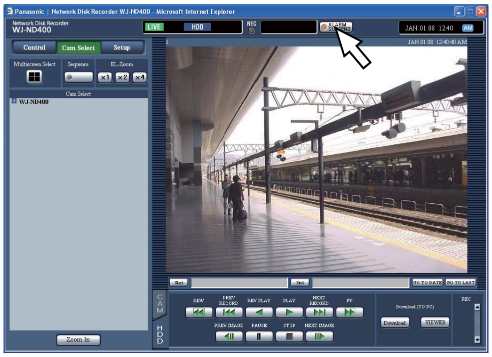
**Note:**

- Emergency recording does not stop even if you click the "Alarm [ALM]" button while recording. However, recording stops if the recording time is set to [Continue] for emergency recording.

## Suspend alarm action

The recorder can be set so that alarms do not occur even if an event occurs. Use this function to do settings or other work when you do not want the alarm to operate. However, recording and event logs are still recorded, preset operations are still performed, and the alarm [ALM] button is displayed.

**1** **Display the operation window.**


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
LIVE
HDD
REC
ALARM SUSPEND
JAN.01.08 12:40
AM
Control
Cam Select
Setup
Multiscreen Select
Sequence
EL-Zoom
×1
×2
×4
Cam Select
WJ-ND400
1
JAN.01.08 12:40:46 AM
Start
End
GO TO DATE
GO TO LAST
CAM
HDD
REW
PREV RECORD
REV PLAY
PLAY
NEXT RECORD
FF
PREV IMAGE
PAUSE
STOP
NEXT IMAGE
Download (TO PC)
Download
VIEWER
REC
Zoom In

**2** **Click the [ALARM SUSPEND] button.**
The [ALARM SUSPEND] indicator on the front of the recorder lights and alarm action is suspended.

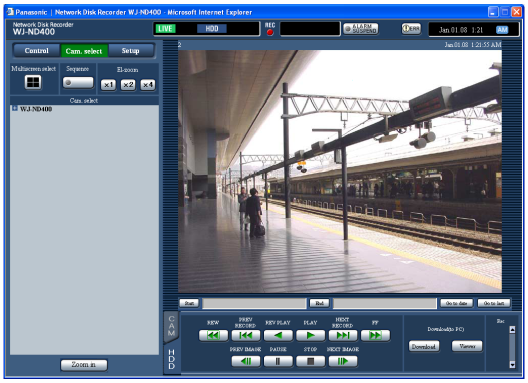
**3** **Click the [ALARM SUSPEND] button.**
The "Alarm suspend indicator [ALARM SUSPEND]" on the front of the recorder turns off and release the alarm suspension.

# Cancel the Error Status

When an error occurred, the unit will be in the error status.

To release the unit from the error status, do the following.

1 **When an error occurred, the [ERR] button will be displayed in the status display area.**



2 **Click the [ERR] button.**

The unit will be released from the error status.

---

**Note:**

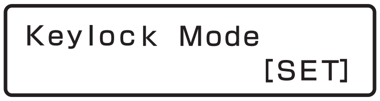
- Depending on the error, the ERROR indicator on the front of the unit does not go off even if the [ERR] button is clicked.

# Preventing illegal operations

You can lock the buttons on the front panel of the recorder to prevent them from being operated.

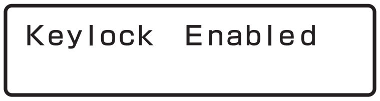
## Lock

1. **Press the arrow buttons (up or down) on the front panel.**
   Continue to press it until [Keylock Mode] is displayed.



```
Keylock Mode
           [SET]
```

2. **Press the [SET] button.**
   [Keylock Enabled] is displayed and Key Lock is set.



```
Keylock  Enabled
```

## Cancel

1. **Press the arrow buttons (up or down) on the front panel.**
   Continue to press it until [Keylock Mode] is displayed.
2. **Press the [SET] button.**
   [Locked] is displayed and the password entry screen appears.
3. **Enter your password (default is 12345).**
   - Move the cursor using the arrow buttons (left or right) and enter values from 0 to 9 using (up or down).
   - You can set the password on the setup menu. Refer to the Setup Instructions (PDF file) for more information.
4. **Press the [SET] button.**
   Key lock is canceled.

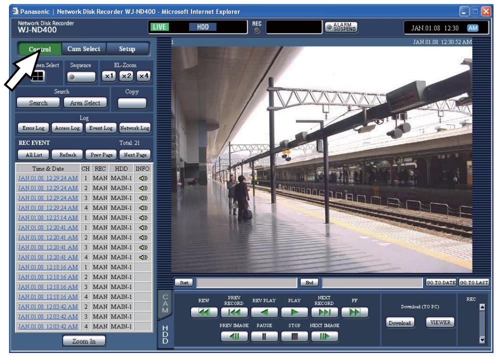
# Checking logs

You can check logs of malfunctions, access, events (time/date, description), and network malfunctions.

## Error log

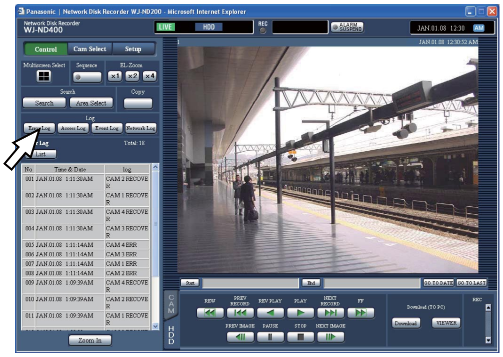
You can view a listing of the errors that have occurred on the recorder.

**1** **Click the [Control] button.**



**2** **Click the [Error log] button in the [Log] box.**

Errors that have occurred on the recorder are shown in a list (Error Logs) on the rec event list. Refer to page 52 for more information about Error logs.



**3** **Click the [List] button.**

The error log list closes.

---

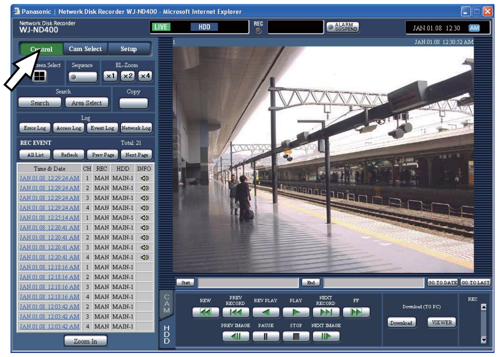
**Note:**

- A maximum of 100 logs are listed on the error log list. When there are over 100 logs, the oldest are overwritten.
- If the current error and last recorded error are the same, only the time and date of the latest log will be updated.
- Live images will not be refreshed correctly while the displayed logs are being refreshed.

## Access log

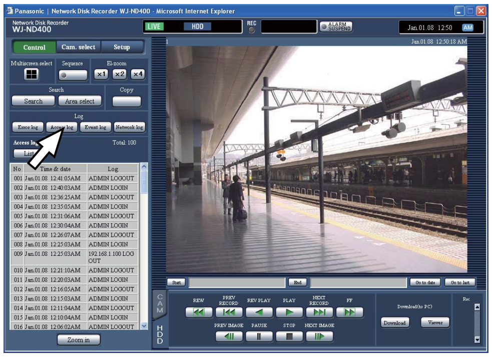
Displays the log in/log out time and date, the user name and IP address.

**1** **Click the [Control] button.**



**2** **Click the [Access log] button in the [Log] box.**

Access logs are shown in a list on the rec event list.



About the Access log

| | |
|---|---|
| **LOGIN/**LOGOUT | Users and hosts that logged in or out. |
| CONFIG LOGIN/<br>CONFIG LOGOUT | Logged in or out of configuration settings. |
| USE BUTTON PUSHED | Pressed [USE] button for over 2 seconds. |

The user name or IP address is shown in **.

**3** **Click the [List] button.**

The access log list closes.

---

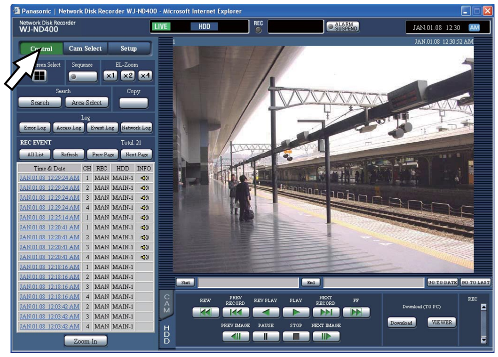
**Note:**

- A maximum of 100 logs are listed on the access log list. When there are over 100 logs, the oldest are overwritten.
- Live images will not be refreshed correctly while the displayed logs are being refreshed.

## Event log

You can view the Event log (when events occurred and a description) in a list. For information about events, refer to page 33.

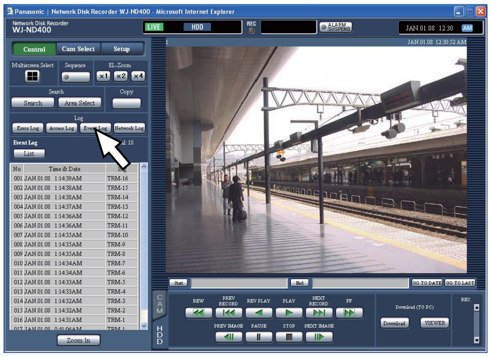
**1** **Click the [Control] button.**



| Time & Date | CH | REC | HDD | INFO |
|---|---|---|---|---|
| JAN.01.08 12:29:24 AM | 1 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:29:24 AM | 2 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:29:24 AM | 3 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:29:24 AM | 4 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:25:14 AM | 1 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:20:41 AM | 1 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:20:41 AM | 2 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:20:41 AM | 3 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:20:41 AM | 4 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:18:16 AM | 1 | MAN | MAIN-1 | |
| JAN.01.08 12:18:16 AM | 2 | MAN | MAIN-1 | |
| JAN.01.08 12:18:16 AM | 3 | MAN | MAIN-1 | |
| JAN.01.08 12:18:16 AM | 4 | MAN | MAIN-1 | |
| JAN.01.08 12:03:42 AM | 2 | MAN | MAIN-1 | |
| JAN.01.08 12:03:42 AM | 3 | MAN | MAIN-1 | |
| JAN.01.08 12:03:42 AM | 4 | MAN | MAIN-1 | |

**2** **Click the [Event log] button in the [Log] box.**

Event logs are shown in a list on the rec event list.



| No | Time & Date | log |
|---|---|---|
| 001 | JAN.01.08 1:14:39AM | TRM-16 |
| 002 | JAN.01.08 1:14:38AM | TRM-15 |
| 003 | JAN.01.08 1:14:38AM | TRM-14 |
| 004 | JAN.01.08 1:14:37AM | TRM-13 |
| 005 | JAN.01.08 1:14:36AM | TRM-12 |
| 006 | JAN.01.08 1:14:36AM | TRM-11 |
| 007 | JAN.01.08 1:14:35AM | TRM-10 |
| 008 | JAN.01.08 1:14:35AM | TRM-9 |
| 009 | JAN.01.08 1:14:35AM | TRM-8 |
| 010 | JAN.01.08 1:14:34AM | TRM-7 |
| 011 | JAN.01.08 1:14:34AM | TRM-6 |
| 012 | JAN.01.08 1:14:33AM | TRM-5 |
| 013 | JAN.01.08 1:14:33AM | TRM-4 |
| 014 | JAN.01.08 1:14:32AM | TRM-3 |
| 015 | JAN.01.08 1:14:32AM | TRM-2 |
| 016 | JAN.01.08 1:14:31AM | TRM-1 |

About Event logs

| | |
|---|---|
| COM | : Command Alarm |
| EMR | : Emergency recording |
| TRM | : Terminal Alarm |
| CAM | : Site Alarm |
| SCD | : Scene Change Alarm |
| EXT START | : External recording start |
| EXT STOP | : External recording stop |

**3** **Click the [List] button.**

The event log list closes.

---

**Note:**

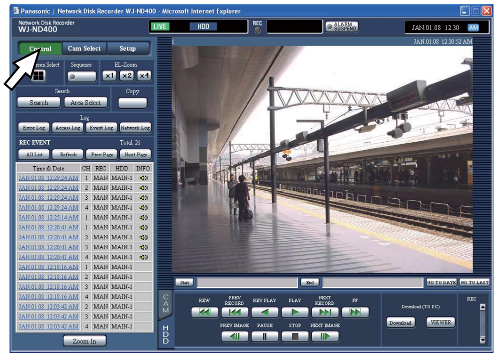
- A maximum of 750 logs are listed on the Event log list. When there are over 750 logs, the oldest are overwritten.
- Live images will not be refreshed correctly while the displayed logs are being refreshed.

---

## Network log

You can view the Network log (when they occurred and a description) in a list.

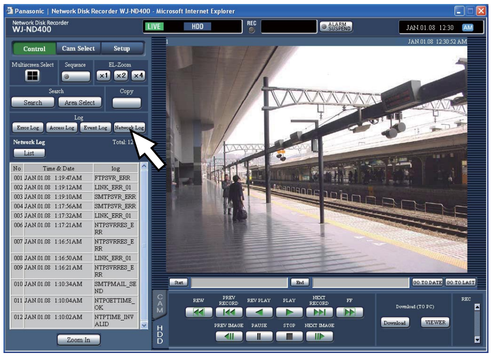
**1** **Click the [Control] button.**



| Time & Date | CH | REC | HDD | INFO |
|---|---|---|---|---|
| JAN.01.08 12:29:24 AM | 1 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:29:24 AM | 2 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:29:24 AM | 3 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:29:24 AM | 4 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:25:14 AM | 1 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:20:41 AM | 1 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:20:41 AM | 2 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:20:41 AM | 3 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:20:41 AM | 4 | MAN | MAIN-1 | 🔊 |
| JAN.01.08 12:18:16 AM | 1 | MAN | MAIN-1 | |
| JAN.01.08 12:18:16 AM | 2 | MAN | MAIN-1 | |
| JAN.01.08 12:18:16 AM | 3 | MAN | MAIN-1 | |
| JAN.01.08 12:18:16 AM | 4 | MAN | MAIN-1 | |
| JAN.01.08 12:03:42 AM | 2 | MAN | MAIN-1 | |
| JAN.01.08 12:03:42 AM | 3 | MAN | MAIN-1 | |
| JAN.01.08 12:03:42 AM | 4 | MAN | MAIN-1 | |

**2** **Click the [Network log] button in the [Log] box.**

Network logs are shown in a list on the rec event list. Refer to page 52 for more information about Network Logs.



| No | Time & Date | log |
|---|---|---|
| 001 | JAN.01.08 1:19:47AM | FTPSVR_ERR |
| 002 | JAN.01.08 1:19:12AM | LINK_ERR_01 |
| 003 | JAN.01.08 1:19:10AM | SMTPSVR_ERR |
| 004 | JAN.01.08 1:17:56AM | SMTPSVR_ERR |
| 005 | JAN.01.08 1:17:32AM | LINK_ERR_01 |
| 006 | JAN.01.08 1:17:21AM | NTPSVRRES_ERR |
| 007 | JAN.01.08 1:16:51AM | NTPSVRRES_ERR |
| 008 | JAN.01.08 1:16:50AM | LINK_ERR_01 |
| 009 | JAN.01.08 1:16:21AM | NTPSVRRES_ERR |
| 010 | JAN.01.08 1:10:34AM | SMTPMAIL_SEND |
| 011 | JAN.01.08 1:10:04AM | NTPGETTIME_OK |
| 012 | JAN.01.08 1:10:02AM | NTPTIME_INVALID |

**3** **Click the [List] button.**

The Network log list closes.

---

**Note:**

- A maximum of 1000 logs are listed on the Network log list. When there are over 1000 logs, the oldest are overwritten.
- If the current error and last recorded network log are the same, only the time and date of the latest log will be updated.
- Live images will not be refreshed correctly while the displayed logs are being refreshed.

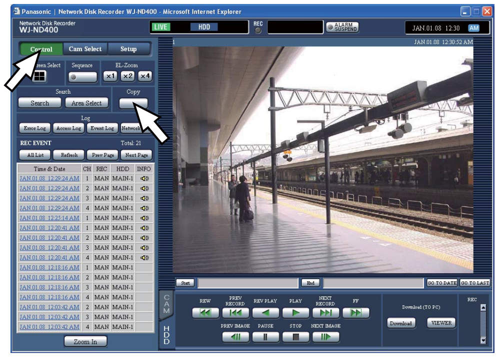
# Copying recorded images

Images recorded to a disk can be selected and copied to an area on a HDD.
We recommend backing up important data in case of HDD malfunction or unexpected accident.

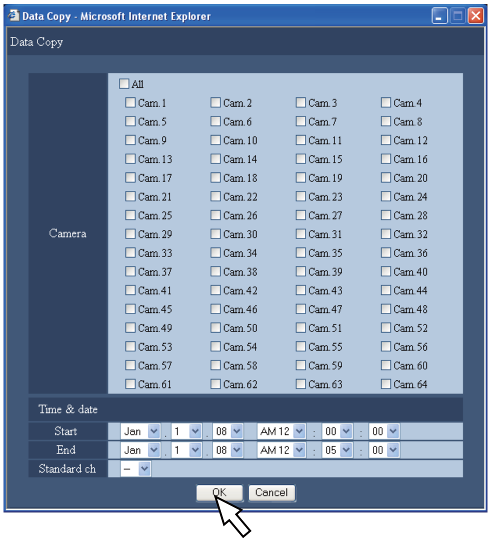
## Copying

You can copy images recorded in the Normal recording area/Event recording area to the Copy area while live images are being displayed and while recorded images are being played back.

**1** **Click the [Control] button.**


Network Disk Recorder
WJ-ND400
Control
Cam Select
Setup
Search
Area Select
Copy
Error Log
Access Log
Event Log
REC EVENT
All List
Refresh
Prev Page
Next Page
Zoom In
Download
VIEWER

**2** **Click the [Copy] button.**
This will display the [Data copy] window.


Data Copy - Microsoft Internet Explorer
Data Copy
Camera
☐ All
☐ Cam.1 ☐ Cam.2 ☐ Cam.3 ☐ Cam.4
...
☐ Cam.61 ☐ Cam.62 ☐ Cam.63 ☐ Cam.64
Time & date
OK
Cancel

Start: Jan 1 08 AM 12 : 00 : 00
End: Jan 1 08 AM 12 : 05 : 00
Standard ch: --

**3** **Click the camera channel you want to copy.**
You can select multiple camera channels.

**4** **Click the [V] button and select the starting and ending time and date for the copy.**

**5** **Set which camera channel time and date to use as standard time zone.**
If cameras are setup in multiple countries, you must set which camera channel time and date to use as standard time zone. If the recorder and the camera are set in the same time zone, set to [--].

**6** **Click the [OK] button.**
[COPY] is appeared in the status display area and copying begins.

**Important:**

- Images are copied before audio.
- All images and audio may not be copied depending on the time set for copying.

**Note:**

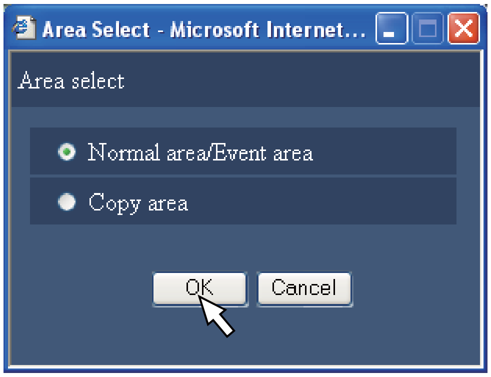
- In the following cases, copying during operation is canceled.
  - If a different user changes the settings during copying.
  - When a user who started manual copying from a PC web browser closes the Web browser (copying stops about 90 seconds after the web browser is closed).
- Copying is not possible in the following cases. A pop-up screen appears when you click the [Copy] button.
  - When a different user is during copying
  - When the Copy Area is selected as the area
- When the user who started copying presses the [Copy] button while during copying, the Copy Cancel screen opens and copying can be canceled.
- When an MPEG-4 image is selected for copying, you can start copying from a specified date and time.
- Selected cameral channels or SD memory data within a specified time rage are copied to the Copy Area.

## Playing back copied images

You can playback copied images.

1. **Click the [Control] button.**

2. **Click the [Area select] button in the [Search] box.**
   This will display the [Area select] screen.



Area Select - Microsoft Internet...

Area select

● Normal area/Event area

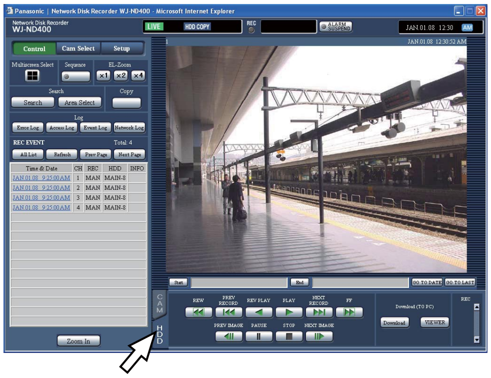
○ Copy area

OK Cancel

3. **Select the [Copy area] check box.**

4. **Click the [OK] button.**
   Logs (when copied and a description) of copied images are shown in a list in the rec event list.

5. **Click the [HDD] tab.**



6. **Click the log to playback.**
   "Playing [Step 1]" is displayed in the status display area and the recorded images on the selected disk are played back.

7. **Click the [STOP] button.**
   Stops playback.
   - "Playing [Step 1]" disappears from the status display area and a live image from the camera is displayed in the Image display.
   - Playback will start from the finish point (time and date) of the last playback.

# Deleting images

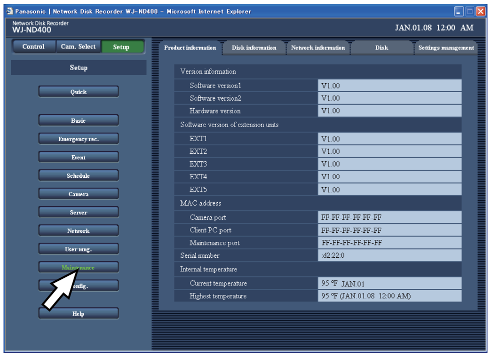
## Manual deletion

You can manually delete images and audio recorded on the Normal recording area, Event recording area and Copy area of the recorder's HDD. By setting a time and date, the images recorded the day before the set time and date will be subject to deletion.

**Important:**

- Note that deleted images and audio cannot be recovered.
- You can set period of time, after which the images on the HDD are automatically deleted (HDD auto delete). For more information, contact your system administrator.
- When [Stop] is set under [Disk end mode] on the setup menu, disk space does not increase even after deletion.

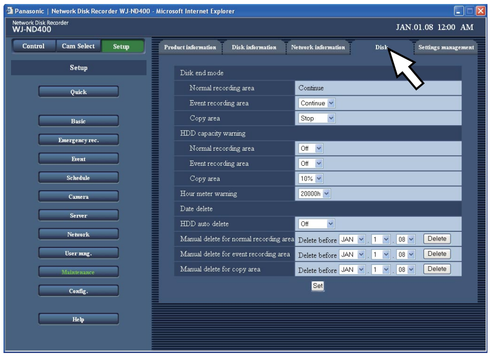
**1** **Click the [Setup] button and then click [Maintenance].**


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam. Select
Setup
Product information
Disk information
Network information
Disk
Settings management
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help

| | |
|---|---|
| Version information | |
| Software version1 | V1.00 |
| Software version2 | V1.00 |
| Hardware version | V1.00 |
| Software version of extension units | |
| EXT1 | V1.00 |
| EXT2 | V1.00 |
| EXT3 | V1.00 |
| EXT4 | V1.00 |
| EXT5 | V1.00 |
| MAC address | |
| Camera port | FF-FF-FF-FF-FF-FF |
| Client PC port | FF-FF-FF-FF-FF-FF |
| Maintenance port | FF-FF-FF-FF-FF-FF |
| Serial number | :d2:22:0 |
| Internal temperature | |
| Current temperature | 95 °F JAN.01 |
| Highest temperature | 95 °F (JAN.01.08 12:00 AM) |

**2** **On the sub-menu that appears, click [Disk].**

This will display the "Disk setting" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam. Select
Setup
Product information
Disk information
Network information
Disk
Settings management
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Set

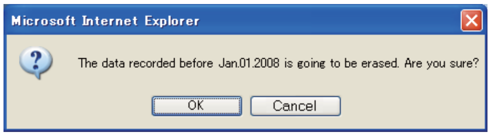
| | |
|---|---|
| Disk end mode | |
| Normal recording area | Continue |
| Event recording area | Continue |
| Copy area | Stop |
| HDD capacity warning | |
| Normal recording area | Off |
| Event recording area | Off |
| Copy area | 10% |
| Hour meter warning | 20000h |
| Date delete | |
| HDD auto delete | Off |
| Manual delete for normal recording area | Delete before JAN . 1 . 08 Delete |
| Manual delete for event recording area | Delete before JAN . 1 . 08 Delete |
| Manual delete for copy area | Delete before JAN . 1 . 08 Delete |

**3** **Select the area to delete from [Manual delete for normal recording area], [Manual delete for event recording area], and [Manual delete for copy area] and enter a time and date.**

Images and audio recorded before the set time and date will be deleted.

**4** **Click the [Delete] button.**

This will display a confirmation window.


Microsoft Internet Explorer
OK
Cancel

The data recorded before Jan.01.2008 is going to be erased. Are you sure?

**5** **Click the [OK] button.**

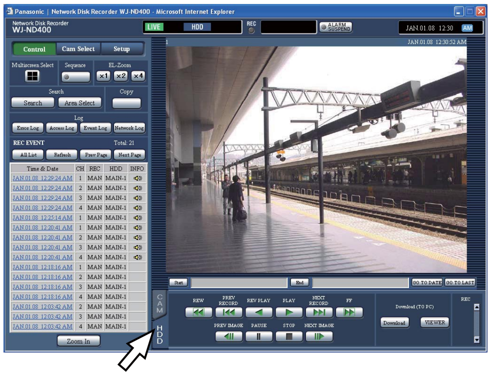
The data is deleted.

# Downloading images

## Downloading images for playback

You can download images to the PC by setting the start and end time and date for download of images being played back. Downloaded images are saved as image data files (file name.n3r) and audio data file (file name.n3a). Refer to page 44 for information on playing back downloaded images.

**1** **Click the [HDD] tab.**


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
WJ-ND400
LIVE
HDD
Control
Cam Select
Setup
Search
Copy
Log
REC EVENT
Zoom In
Download
VIEWER

**2** **Enter the playback time and date for the image being played to be downloaded in "Start".**

You can click the [Start] button at the playback position you want to start downloading the image being played.

**3** **Enter the playback date and finishing time for the image being played to be downloaded in "End".**

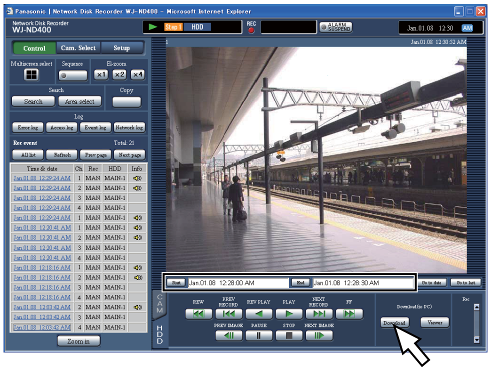
You can click the [End] button at the playback position you want to end downloading the image being played.

- The maximum time allowed for a single download is 20 minutes.

**4** **Click the [Download] button.**

This will display the "Download Settings" window.

- The specified time and date are displayed in the "Start" and "End" boxes.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
WJ-ND400
Control
Cam. Select
Setup
Start
Jan.01.08 12:28:00 AM
End
Jan.01.08 12:28:30 AM
Go to date
Go to last
Download
Viewer
Zoom in

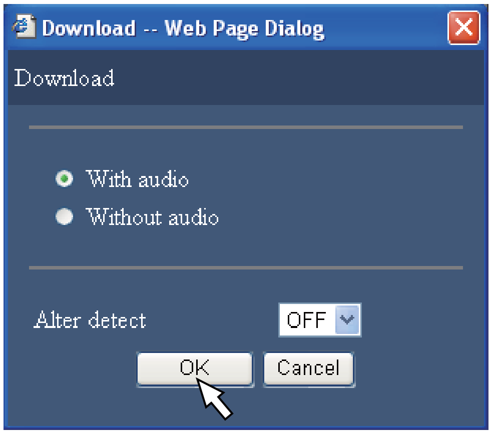
**Note:**

- When an MPEG-4 image is downloaded, a few seconds before and after the specified start and end time may be downloaded.

**5** **Select whether the data for download has audio or whether data for alteration detection is attached and click the [OK] button.**

The File Download window is displayed.

- The download time is longer if audio or alteration detection data is attached.



Download -- Web Page Dialog

Download

● With audio

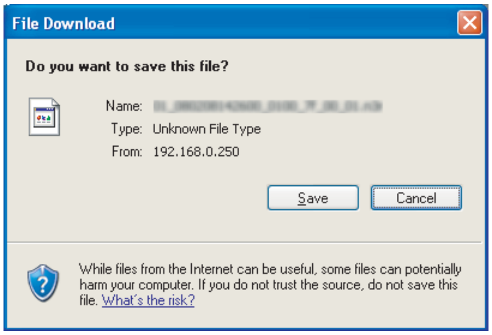
○ Without audio

Alter detect OFF

**6** **Click the [Save] button.**

The window for specifying the save destination of the file is displayed.

- If you selected the [With Audio] check box in step 5, a redownload window appears after image data has been downloaded.



File Download

Do you want to save this file?

Name: [redacted]

Type: Unknown File Type

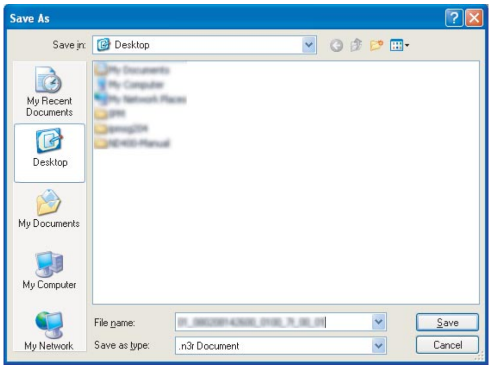
From: 192.168.0.250

Save
Cancel

While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not save this file. What's the risk?

**7** **Create a new folder in the selected destination and click the [Save] button.**

Image data (file name.n3r), and audio data (file name.n3a) are downloaded. Save the image data and audio data in the same folder.



Save As

Save in: Desktop

File name: [redacted]

Save as type: .n3r Document

My Recent Documents
Desktop
My Documents
My Computer
My Network
Save
Cancel

**Important:**

- During download, space* equal to at least twice the file size is required on the PC HDD.
  *Limited by Microsoft® Internet Explorer.
- If a download is canceled while in progress, the downloaded file will not playback correctly on the PC.

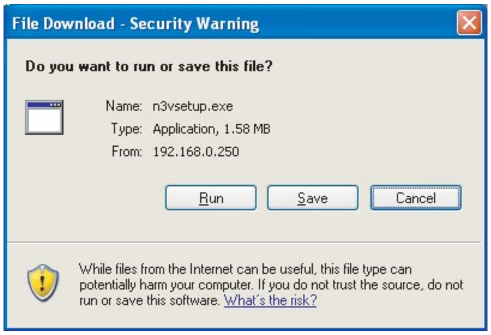
# Downloaded image operations

When you download an image for playback, image data (file name.n3r), and audio data (file name.n3a) are downloaded. Using the viewer software available for download from the recorder, you can playback, save, and print downloaded data.

## Downloading the viewer software

1 **Click the [HDD] tab.**

2 **Click the [Viewer] button in the [Download (TO PC)] box.**
The [File Download] window is displayed.



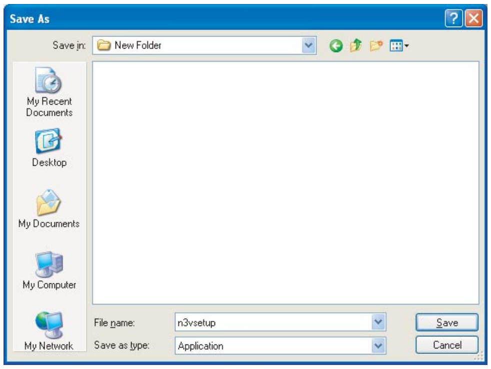
File Download - Security Warning

Do you want to run or save this file?

Name: n3vsetup.exe
Type: Application, 1.58 MB
From: 192.168.0.250

While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

3 **Click the [Save] button.**
The window for specifying the save destination of the file is displayed.



Save As

Save in: New Folder

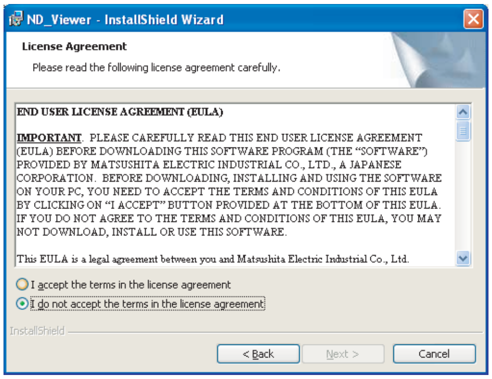
File name: n3vsetup
Save as type: Application

4 **Create a new folder in the selected destination and click the [Save] button.**
The viewer software is downloaded.

## Installing the viewer software

You must uninstall any previous versions of the viewer software before installing the latest version.

1 **Double-click the downloaded n3vsetup.exe file.**
This will display the end user's license agreement.



ND_Viewer - InstallShield Wizard

License Agreement

Please read the following license agreement carefully.

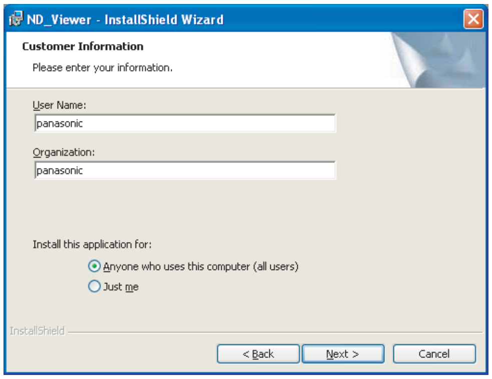
END USER LICENSE AGREEMENT (EULA)

IMPORTANT. PLEASE CAREFULLY READ THIS END USER LICENSE AGREEMENT (EULA) BEFORE DOWNLOADING THIS SOFTWARE PROGRAM (THE "SOFTWARE") PROVIDED BY MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD., A JAPANESE CORPORATION. BEFORE DOWNLOADING, INSTALLING AND USING THE SOFTWARE ON YOUR PC, YOU NEED TO ACCEPT THE TERMS AND CONDITIONS OF THIS EULA BY CLICKING ON "I ACCEPT" BUTTON PROVIDED AT THE BOTTOM OF THIS EULA. IF YOU DO NOT AGREE TO THE TERMS AND CONDITIONS OF THIS EULA, YOU MAY NOT DOWNLOAD, INSTALL OR USE THIS SOFTWARE.

This EULA is a legal agreement between you and Matsushita Electric Industrial Co., Ltd.

○ I accept the terms in the license agreement
● I do not accept the terms in the license agreement

2 **Select [I accept the terms in the licence agreement] and click the [Next >] button.**
This displays the entering user information.



ND_Viewer - InstallShield Wizard

Customer Information

Please enter your information.

User Name: panasonic

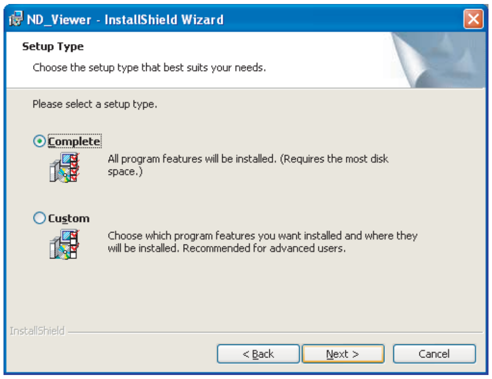
Organization: panasonic

Install this application for:

● Anyone who uses this computer (all users)
○ Just me

3 **Enter the user information and click the [Next >] button.**
This will display the setup selection.

- You may leave some user information fields blank.



ND_Viewer - InstallShield Wizard

Setup Type

Choose the setup type that best suits your needs.

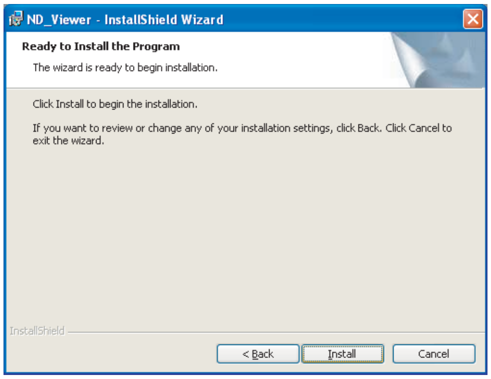
Please select a setup type.

● Complete
All program features will be installed. (Requires the most disk space.)

○ Custom
Choose which program features you want installed and where they will be installed. Recommended for advanced users.

**4** **Select [Anyone who uses this computer (all users)] and then click the [Next >] button.**

The wizard is ready to install.


ND_Viewer - InstallShield Wizard
InstallShield
< Back
Install
Cancel

**Ready to Install the Program**

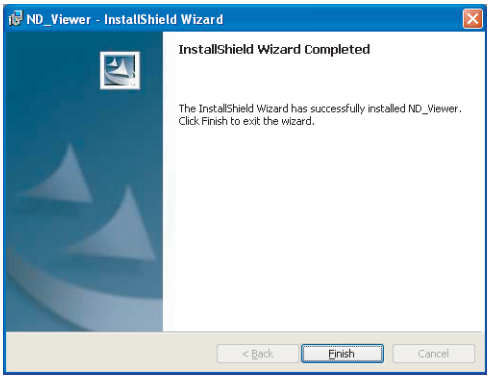
The wizard is ready to begin installation.

Click Install to begin the installation.

If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.

**5** **Click the [Install] button.**

When the installation is successfully completed, the following window will be displayed.


ND_Viewer - InstallShield Wizard
< Back
Finish
Cancel

**InstallShield Wizard Completed**

The InstallShield Wizard has successfully installed ND_Viewer. Click Finish to exit the wizard.

**6** **Click the [Finish] button.**

Installation of the viewer software is complete.

## Uninstalling the viewer software

### In Windows XP

**1** **Select [Add or Remove Programs] from the Control Panel.**

**2** **Select [ND_Viewer] from the list of installed programs, and then click the [Remove] button.**

The uninstall program launches.

**3** **Uninstall the program following the instructions on the window.**

### In Windows Vista

**1** **Select [The uninstall program] from the Control Panel.**

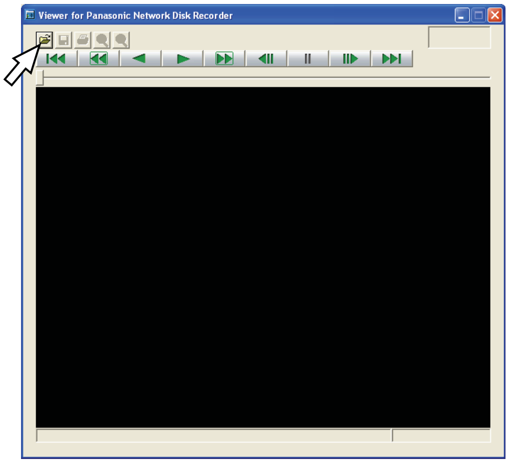
**2** **Select [ND_Viewer] from the list of installed programs, and right click. Select [Uninstall and Change] in the menu that is displayed.**

The uninstall program launches.

**3** **Uninstall the program following the instructions on the window.**

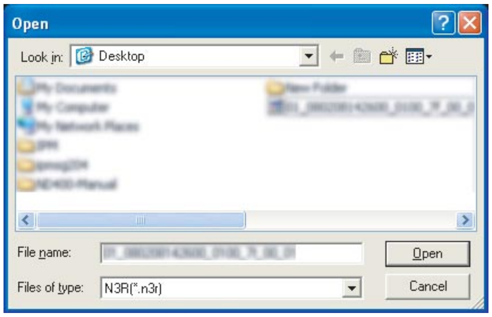
## Playing back images

**1** **When you launch the viewer software, the following window appears.**


Viewer for Panasonic Network Disk Recorder

**2** **Click the "Open File [OPEN]" button.**

The file open window opens.


Open
Open
Cancel

Look in: Desktop

File name:

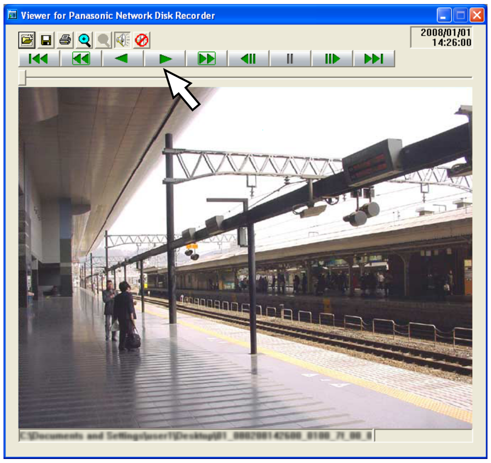
Files of type: N3R(*.n3r)

**3** **Select the downloaded image data (file name.n3r).**

- You can select multiple files while pressing either the [Ctrl] or [Shift] keys. A maximum of 32 files can be selected.
- When you play audio data, put both image data (file name.n3r) and audio data (file name.n3a) in the same folder.

**4** **Click the [Open] button.**

This displays the image.



**5** **Click the [PLAY] button.**

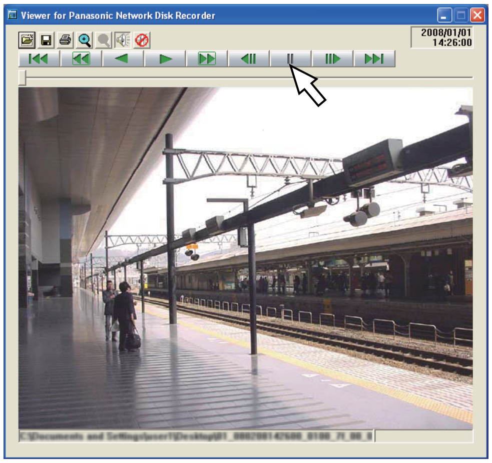
- When playback is finished, a black window is displayed and playback is paused.
- When multiple files are selected, click the [NEXT RECORD] or [PREV RECORD] buttons to switch between images.
- Click the [Zoom] button to enlarge the image twice the size.
- Depending on the specifications of the PC, playback may not be smooth.
- You can turn audio on or off by clicking the [Speaker (audio on)] or the [Speaker (audio off)] button.
- If browser, viewer, or HDD viewer are running at the same time, audio playback may not be correct.

  To play back the audio correctly, run just the browser, the viewer, or the HDD viewer only.
- Image and audio sometimes may not be synchronized.

## Saving images

Displayed images are saved to the PC as jpeg files.

**1** **Perform operations on playback with the viewer software.**

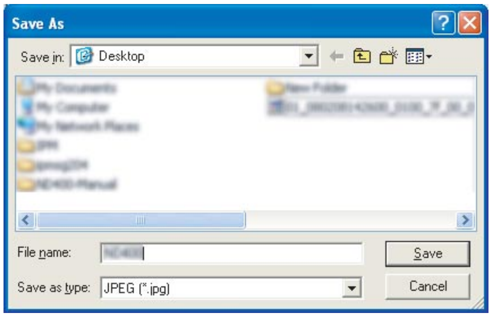


**2** **Click the [PAUSE] button.**

**3** **Click the [SAVE] button.**

The "Save As" window will be displayed.

**4** **Enter a file name and select JPEG (*.jpg) as the file type.**



Save in: Desktop

File name:

Save as type: JPEG (*.jpg)

**5** **Designate the folder and click the [Save] button.**

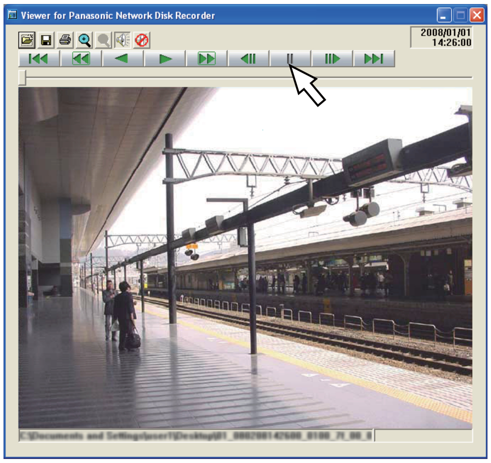
The image data is saved.

# Downloading images

## Printing images

You can pause playback and print images displayed on screen with the viewer software.

**1** **Play back an image with the viewer software.**


Viewer for Panasonic Network Disk Recorder
2008/01/01
14:26:00

**2** **Click the [PAUSE] button when the image you want to print is displayed.**

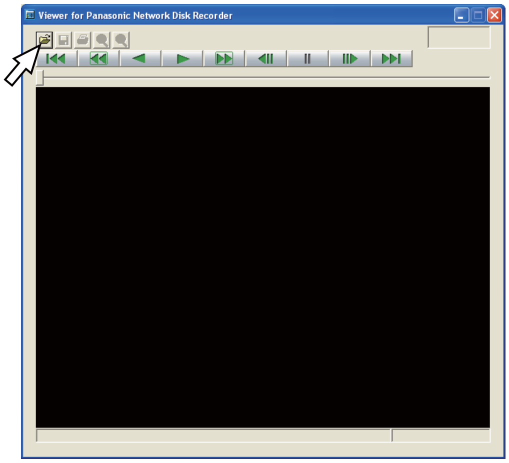
**3** **Click the [PRINT] button.**

- When printing n3r file images, the time and date at the paused location is printed.

## Alteration detection

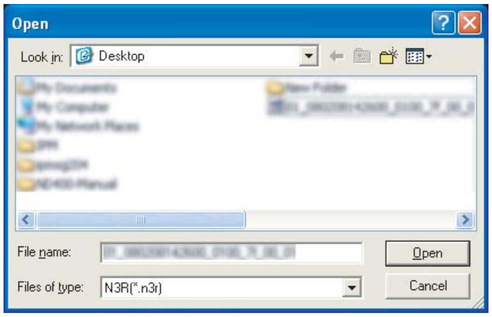
During downloads, you can perform alteration detection on data set to have alteration detection data attached. Refer to page 42 for information on how to attach alteration detection data.

**1** **When you launch the viewer software, the following window appears.**


Viewer for Panasonic Network Disk Recorder

**2** **Click the [Open File (OPEN)] button.**

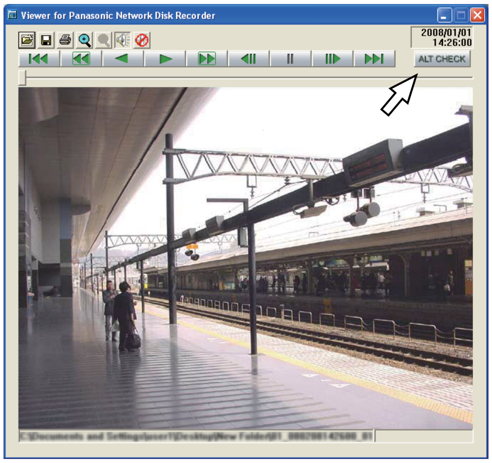
The [Open] window opens.


Open
Look in:
Desktop
File name:
Files of type:
N3R(*.n3r)
Open
Cancel

**3** **Select the downloaded image data (file name.n3r).**

**4** **Click the [Open] button.**

Playback is paused on the first image of the data.


Viewer for Panasonic Network Disk Recorder
2008/01/01
14:26:00
ALT CHECK

**5** **Click the [ALT CHECK] button.**

Alteration detection starts.

- The [ALT CHECK] button is displayed only when alteration detection can be performed on image data that is open.

[OK (Not Altered)] : Alterations were not detected.
[NG (Altered)] : Alterations were detected.

# Transmitting data

## Transmitting to the FTP server

You can transmit camera images to the FTP server. You can either use image transmission by periodic timer [Image transmission by periodic timer] to transmit images periodically to the FTP server or an alarm [Image transmission by alarm] to send camera images to the FTP server during an event.

### Periodically transmit camera images

It is necessary to perform the settings on the setup menu to transmit images from cameras to an FTP server periodically.

Set the directory on the destination server, the transmission interval, and the camera channel to transmit images from under [Server] on the setup menu. Also, configure image transmission by periodic timer settings under [Image transmission by periodic timer] on the setup menu. Refer to the Setup Instructions (PDF file) for information about settings.

Image transmission by periodic timer cannot be used when the image compression format of the camera channel set in [Image transmission by periodic timer] is [MPEG-4].

### Transmit camera images when an event occurs

You must configure settings for sending camera images to the FTP server when an event occurs in advance on the setup menu.

Configure the settings for the destination server name, and the transmit time of pre-event and post-event images under [Image transmission by alarm] on the setup menu. Also, configure image transmission by alarm settings under [FTP image transmission by alarm] on the setup menu. Refer to the Setup Instructions (PDF file) for information about settings.

## Send mail

Alarm mail (notification of the time and date of an event) is sent to registered e-mail addresses when an event occurs. You must configure the settings on the setup menu in advance to send an alarm mail when an event occurs (refer to the Setup Instructions (PDF file)).

**Note:**

- A single image is attached to the e-mail.
- Up to 4 addresses can be registered to receive the alarm mail.

# Checking system/disk information

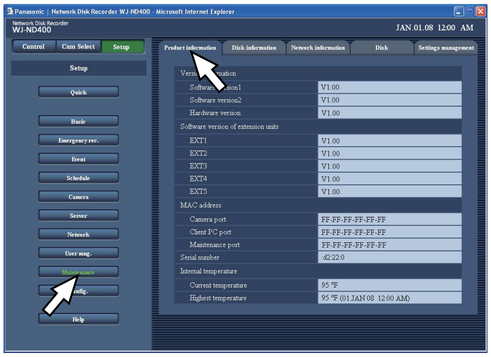
For checking information about the HDDs and the recorder system.

## System information

Displays software and hardware versions, MAC address, serial number, internal temperature, and Extension unit software version information.

**1** **Click the [Setup] button.**

**2** **Click the [Maintenance] button and then click [Product information].**


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Product information
Disk information
Network information
Disk
Settings management

| | |
|---|---|
| Version information | |
| Software version1 | V1.00 |
| Software version2 | V1.00 |
| Hardware version | V1.00 |
| Software version of extension units | |
| EXT1 | V1.00 |
| EXT2 | V1.00 |
| EXT3 | V1.00 |
| EXT4 | V1.00 |
| EXT5 | V1.00 |
| MAC address | |
| Camera port | FF-FF-FF-FF-FF-FF |
| Client PC port | FF-FF-FF-FF-FF-FF |
| Maintenance port | FF-FF-FF-FF-FF-FF |
| Serial number | :d2:22:0 |
| Internal temperature | |
| Current temperature | 95 °F |
| Highest temperature | 95 °F (01.JAN 08 12:00 AM) |

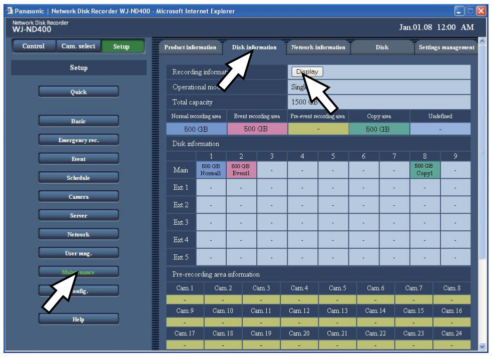
## Disk information

You can view the capacities and the remaining space available of the recorder's HDDs and Extension units (Ext.1 to 5). You can also check the date range of images recorded on the selected HDD. Refer to the Setup Instructions (PDF file) for more information on the recorder's HDD. You can also configure settings for operating time (hour meter) warnings for the HDD.

**1** **Click the [Setup] button.**

**2** **Click the [Maintenance] button and then click [Disk information].**

This will display the "Disk information" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Product information
Disk information
Network information
Disk
Settings management
Display

| | |
|---|---|
| Recording information | Display |
| Operational mode | Single |
| Total capacity | 1500 GB |

| Normal recording area | Event recording area | Pre-event recording area | Copy area | Undefined |
|---|---|---|---|---|
| 500 GB | 500 GB | - | 500 GB | - |

Disk information

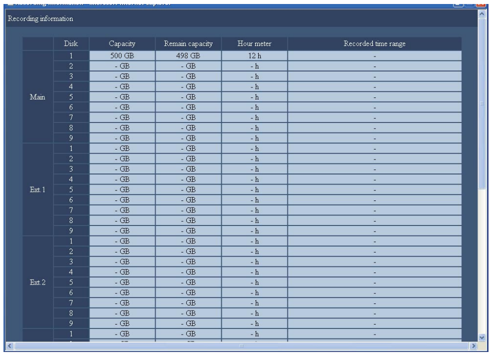
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| Main | 500 GB<br>Normal1 | 500 GB<br>Event1 | - | - | - | - | - | 500 GB<br>Copy1 | - |
| Ext. 1 | - | - | - | - | - | - | - | - | - |
| Ext. 2 | - | - | - | - | - | - | - | - | - |
| Ext. 3 | - | - | - | - | - | - | - | - | - |
| Ext. 4 | - | - | - | - | - | - | - | - | - |
| Ext. 5 | - | - | - | - | - | - | - | - | - |

Pre-recording area information

| Cam. 1 | Cam. 2 | Cam. 3 | Cam. 4 | Cam. 5 | Cam. 6 | Cam. 7 | Cam. 8 |
|---|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - | - |
| Cam. 9 | Cam. 10 | Cam. 11 | Cam. 12 | Cam. 13 | Cam. 14 | Cam. 15 | Cam. 16 |
| - | - | - | - | - | - | - | - |
| Cam. 17 | Cam. 18 | Cam. 19 | Cam. 20 | Cam. 21 | Cam. 22 | Cam. 23 | Cam. 24 |
| - | - | - | - | - | - | - | - |

**3** **Click the [Display] button on the [Disk information] window.**

The capacity, hour meter, and time and date range of images saved on each HDD are displayed.



Recording information

| | Disk | Capacity | Remain capacity | Hour meter | Recorded time range |
|---|---|---|---|---|---|
| Main | 1 | 500 GB | 498 GB | 12 h | - |
| | 2 | - GB | - GB | - h | - |
| | 3 | - GB | - GB | - h | - |
| | 4 | - GB | - GB | - h | - |
| | 5 | - GB | - GB | - h | - |
| | 6 | - GB | - GB | - h | - |
| | 7 | - GB | - GB | - h | - |
| | 8 | - GB | - GB | - h | - |
| | 9 | - GB | - GB | - h | - |
| Ext. 1 | 1 | - GB | - GB | - h | - |
| | 2 | - GB | - GB | - h | - |
| | 3 | - GB | - GB | - h | - |
| | 4 | - GB | - GB | - h | - |
| | 5 | - GB | - GB | - h | - |
| | 6 | - GB | - GB | - h | - |
| | 7 | - GB | - GB | - h | - |
| | 8 | - GB | - GB | - h | - |
| | 9 | - GB | - GB | - h | - |
| Ext. 2 | 1 | - GB | - GB | - h | - |
| | 2 | - GB | - GB | - h | - |
| | 3 | - GB | - GB | - h | - |
| | 4 | - GB | - GB | - h | - |
| | 5 | - GB | - GB | - h | - |
| | 6 | - GB | - GB | - h | - |
| | 7 | - GB | - GB | - h | - |
| | 8 | - GB | - GB | - h | - |
| | 9 | - GB | - GB | - h | - |
| | 1 | - GB | - GB | - h | - |

# About mail notification

## Alarm mail notification

The main unit's address appears in the alarm mail as shown below.

Contents of the alarm mail

ND400 (192.168.0.250), alarm was occurred.
Alarm date: xx-xxx-xxxx xx:xx:xx GMT xx:xx (Example: 01-JAN-2008 GMT+0:00)
Cause of alarm: Displays an event type and a camera channel or an alarm number (Example: COMMAND ALARM 5CH)
File name of alarm image: The file name of the image attached to an e-mail.
URL:http://192.168.0.250/

## Warning mail notification

The following mail will be sent to notify of a trouble occurrence to a registered address when the trouble occurs.

ND400 (192.168.0.250) STATUS REPORT.

DATE: 1-JAN-2008 12:00:00 GMT+0:00

STATUS: The description of the trouble will be displayed. (Ex. MAIN THERMAL ERROR)

| Item | Description | |
|---|---|---|
| DATE | Time and date when the trouble occurred will be displayed. | |
| STATUS | The description of the trouble will be displayed. | |
| | HDD capacity warning[*1] | : <Anything other than FULL><br>NORMAL-HDD CAPACITY REMAINS **%<br>EVENT-HDD CAPACITY REMAINS **%<br>COPY-HDD CAPACITY REMAINS **%<br>** is remaining capacity (%).<br>: <FULL><br>EVENT-HDD FULL<br>COPY-HDD FULL |
| | Power outage detection | : POWER LOSS |
| | Recover from a power outage | : POWER RECOVERED |
| | NW camera error detection | : CAM** COMMUNICATION ERROR<br>** is camera channel. |
| | NW camera error recovery | : CAM** COMMUNICATION RECOVERED<br>** is camera channel. |
| | NW camera error detection (audio) | : CAM** COMMUNICATION ERROR (AUDIO)<br>** is camera channel. |
| | NW camera error recovery (audio) | : CAM** COMMUNICATION RECOVERED (AUDIO)<br>** is camera channel. |
| | HDD smart warning[*2] | : Recorder: MAIN-y SMART WARNING<br>Extension unit: EXTx-y SMART WARNING<br>x is unit number, y is disk number. |
| | HDD hour meter warning | : Recorder: MAIN-y HOUR METER WARNING<br>Extension unit: EXTx-y HOUR METER WARNING<br>x is unit number, y is disk number. |
| | Remove auto links (per HDD) | : Recorder: MAIN-y LOGICALLY REMOVED<br>Extension unit: EXTx-y LOGICALLY REMOVED<br>x is unit number, y is disk number. |
| | Remove auto links (per unit) | : Recorder: MAIN LOGICALLY REMOVED<br>Extension unit: EXTx LOGICALLY REMOVED<br>x is unit number. |

## About mail notification

| Item | Description |
|---|---|
|  | RAID5 recovery failure : Recorder: MAIN RAID5 RECOVERY FAILURE<br>Extension unit: EXTx RAID5 RECOVERY FAILURE<br>x is unit number. |
|  | RAID6 recovery failure : Recorder: MAIN RAID6 RECOVERY FAILURE<br>Extension unit: EXTx RAID6 RECOVERY FAILURE<br>x is unit number. |
|  | Fan trouble : Recorder: MAIN FANy ERROR<br>Extension unit: EXTx FANy ERROR<br>x is unit number, y is FAN number. |
|  | Thermal trouble : Recorder: MAIN THERMAL ERROR<br>Extension unit: EXTx THERMAL ERROR<br>x is unit number. |
|  | NW link error : NETWORK LINK ERROR |
|  | RAID5 1 DOWN : Recorder: MAIN RAID5 1 DOWN<br>Extension unit: EXTx RAID5 1 DOWN<br>x is unit number. |
|  | RAID5 2 DOWN : Recorder: MAIN RAID5 2 DOWN<br>Extension unit: EXTx RAID5 2 DOWN<br>x is unit number. |
|  | RAID6 1 DOWN : Recorder: MAIN RAID6 1 DOWN<br>Extension unit: EXTx RAID6 1 DOWN<br>x is unit number. |
|  | RAID6 2 DOWN : Recorder: MAIN RAID6 2 DOWN<br>Extension unit: EXTx RAID6 2 DOWN<br>x is unit number. |
|  | RAID6 3 DOWN : Recorder: MAIN RAID6 3 DOWN<br>Extension unit: EXTx RAID6 3 DOWN<br>x is unit number. |
|  | Camera SD memory card error : CAM xx SD ERR<br>** is camera channel. |
|  | Camera SD memory card starting write error : CAM xx SD START ERR<br>** is camera channel. |
|  | Camera SD memory card ending write error : CAM xx SD END ERR<br>** is camera channel. |
|  | Camera SD memory card list request error : CAM xx GET LIST ERR<br>** is camera channel. |
|  | Camera SD memory card data obtainment failure : CAM xx GET IMG ERR<br>** is camera channel. |
|  | Camera SD memory card data deletion failure : CAM xx DEL IMG ERR<br>** is camera channel. |
|  | Video loss detection : CAM xx VIDEO LOSS<br>** is camera channel. |
|  | Video loss recovery : CAM xx VIDEO RECOVERED<br>** is camera channel. |
|  | Single mode format failure : Recorder: MAIN-y SINGLE FORMAT ERROR<br>Extension unit: EXTx-y SINGLE FORMAT ERROR<br>x is unit number, y is disk number. |
|  | RAID5 mode format failure : Recorder: MAIN RAID5 FORMAT ERROR<br>Extension unit: EXTx RAID5 FORMAT ERROR<br>x is unit number. |

| Item | Description | | |
|---|---|---|---|
| | RAID6 mode format failure | : | Recorder: MAIN RAID6 FORMAT ERROR<br>Extension unit: EXTx RAID6 FORMAT ERROR<br>x is unit number. |
| | HDD remove error | : | Recorder: MAIN-y SWAP WARNING<br>Extension unit: EXTx-y SWAP WARNING<br>x is unit number, y is disk number. |
| | Alteration detected | : | :ALTERED **CH<br>** is camera channel. |

*1 HDD capacity warning

A warning mail with the <except FULL> content will be sent when the available disk space becomes less than the set value for "HDD capacity warning" of "Disk" of the "Maintenance" menu. After a warning mail is sent, a warning mail with the <except FULL> content will be sent each time 1% of the available disk space is reduced, and a warning mail with the <FULL> content will be sent when there is no available disk space.

*2 The HDD smart warning mail is not sent in the RAID5 mode or the RAID6 mode.

# Error log

## About the error log

The followings are the descriptions about the contents of the error log and the network error log.

| Description of error | Error log | Network log | LCD | Output from connector |
|---|---|---|---|---|
| Power outage detection | POWER LOSS | – | ERR POWER FAILURE | Power outage recovery completion output |
| Recover from a power outage | POWER RECOVERED | – | – | – |
| Alteration Detection | ALTERED **CH | – | – | – |
| No response from a address of Panasonic alarm protocol | PANASONIC_ALM_RES_ERR | – | – | Network error output |
| Failed to resolve a address of Panasonic alarm protocol from DNS | PANASONIC_ALM_ADD_ERR | – | – | Network error output |
| Other errors for a address of Panasonic alarm protocol | PANASONIC_ALM_OTHER_ERR | – | – | Network error output |
| Parameter initialization error | – | – | Recorder: MAIN ERR INITIAL ERR<br>Extension unit: EXTu ERR INITIAL ERR | – |
| FAN warning | Recorder: MAIN FANf ERROR<br>Extension unit: EXTu FANf ERROR | – | Recorder: MAIN-f ERR FAN ERROR<br>Extension unit: EXTu-f ERR FAN ERROR | Error output |
| Thermal error warning | Recorder: MAIN THERMAL ERROR<br>Extension unit: EXTu THERMAL ERROR | – | Recorder: MAIN-t ERR THERMAL ERROR<br>Extension unit: EXTu-t ERR THERMAL ERROR | Error output |
| Reboot by the system error | SYSTEM REBOOT | – | – | – |
| HDD remove error[*1] | Recorder: MAIN-d SWAP WARNING<br>Extension unit: EXTu-d SWAP WARNING | – | Recorder: MAIN-d ERR HDD SWAP ERR<br>Extension unit: EXTu-d ERR HDD SWAP ERR | HDD error output |
| HDD write error | Recorder: MAIN-d WRITE ERR<br>Extension unit: EXTu-d WRITE ERR | – | – | – |
| HDD read error | Recorder: MAIN-d READ ERROR<br>Extension unit: EXTu-d READ ERROR | – | – | – |

| Description of error | Error log | Network log | LCD | Output from connector |
|---|---|---|---|---|
| Single mode format failure | Recorder: MAIN-d SINGLE FORMAT ERROR<br>Extension unit: EXTu-d SINGLE FORMAT ERROR | – | Recorder: MAIN-d ERR HDD FORMAT FAIL<br>Extension unit: EXTu-d ERR HDD FORMAT FAIL | HDD error output |
| RAID5 format failure | Recorder: MAIN RAID5 FORMAT ERROR<br>Extension unit: EXTu RAID5 FORMAT ERROR | – | Recorder: MAIN ERR HDD FORMAT FAIL<br>Extension unit: EXTu ERR HDD FORMAT FAIL | HDD error output |
| RAID6 format failure | Recorder: MAIN RAID6 FORMAT ERROR<br>Extension unit: EXTu RAID6 FORMAT ERROR | – | Recorder: MAIN ERR HDD FORMAT FAIL<br>Extension unit: EXTu ERR HDD FORMAT FAIL | HDD error output |
| RAID5 1DOWN | Recorder: MAIN RAID5 1DOWN<br>Extension unit: EXTu RAID5 1DOWN | – | Recorder: MAIN ERR RAID5 1down<br>Extension unit: EXTu ERR RAID5 1down | HDD error output |
| RAID5 2DOWN | Recorder: MAIN RAID5 2DOWN<br>Extension unit: EXTu RAID5 2DOWN | – | Recorder: MAIN ERR RAID5 2down<br>Extension unit: EXTu ERR RAID5 2down | HDD error output |
| RAID6 1DOWN | Recorder: MAIN RAID6 1DOWN<br>Extension unit: EXTu RAID6 1DOWN | – | Recorder: MAIN ERR RAID6 1down<br>Extension unit: EXTu ERR RAID6 1down | HDD error output |
| RAID6 2DOWN | Recorder: MAIN RAID6 2DOWN<br>Extension unit: EXTu RAID6 2DOWN | – | Recorder: MAIN ERR RAID6 2down<br>Extension unit: EXTu ERR RAID6 2down | HDD error output |
| RAID6 3DOWN | Recorder: MAIN RAID6 3DOWN<br>Extension unit: EXTu RAID6 3DOWN | – | Recorder: MAIN ERR RAID6 3down<br>Extension unit: EXTu ERR RAID6 3down | HDD error output |
| HDD S.M.A.R.T warning[*2] | Recorder: MAIN-d SMART WARNING<br>Extension unit: EXTu-d SMART WARNING | – | Recorder: MAIN-d ERR SMART WARNING<br>Extension unit: EXTu-d ERR SMART WARNING | HDD error output |
| HDD hour meter warning | Recorder: MAIN-d HOUR METER WARNING<br>Extension unit: EXTu-d HOUR METER WARNING | – | Recorder: MAIN-d ERR HDD HOUR METER WARNING<br>Extension unit: EXTu-d ERR HDD HOUR METER WARNING | HDD error output |

| Description of error | Error log | Network log | LCD | Output from connector |
|---|---|---|---|---|
| HDD SKIP warning[*3] | Recorder: MAIN-d HDD SKIP<br>Extension unit: EXTu-d HDD SKIP | – | – | – |
| Remove HDD auto links (per HDD) | Recorder: MAIN-d LOGICALLY REMOVED<br>Extension unit: EXTu-d LOGICALLY REMOVED | – | Recorder: MAIN-d ERR HDD REMOVE ERROR<br>Extension unit: EXTu-d ERR HDD REMOVE ERROR | HDD error output |
| Remove HDD auto links (per Unit) | Recorder: MAIN LOGICALLY REMOVED<br>Extension unit: EXTu LOGICALLY REMOVED | – | Recorder: MAIN ERR HDD REMOVE ERROR<br>Extension unit: EXTu ERR HDD REMOVE ERROR | HDD error output |
| HDD link error | – | – | Recorder: Link MAIN-d FAILURE<br>Extension unit: Link EXTu-d FAILURE | – |
| Partition error (per HDD) | Recorder: MAIN-d PARTITION ERROR<br>Extension unit: EXTu-d PARTITION ERROR | – | Recorder: MAIN-d ERR PARTITION ERROR<br>Extension unit: EXTu-d ERR PARTITION ERROR | – |
| Partition error (per Unit) | Recorder: MAIN PARTITION ERROR<br>Extension unit: EXTu PARTITION ERROR | – | Recorder: MAIN ERR PARTITION ERROR<br>Extension unit: EXTu ERR PARTITION ERROR | – |
| HDD RAID 5 recovery failure | Recorder: MAIN RAID5 RECOVERY FAILURE<br>Extension unit: EXTu RAID5 RECOVERY FAILURE | – | Recorder: MAIN ERR RAID5 R-FAILURE<br>Extension unit: EXTu ERR RAID5 R-FAILURE | HDD error output |
| HDD RAID 6 recovery failure | Recorder: MAIN RAID6 RECOVERY FAILURE<br>Extension unit: EXTu RAID6 RECOVERY FAILURE | – | Recorder: MAIN ERR RAID6 R-FAILURE<br>Extension unit: EXTu ERR RAID6 R-FAILURE | HDD error output |
| Normal area available capacity warning | NORMAL-HDD CAPACITY REMAINS **% | – | AREA ERR NORMAL-HDD **% | Available disk space warning output |
| Event area available capacity warning | EVENT-HDD CAPACITY REMAINS **% | – | AREA ERR EVENT-HDD **% | Available disk space warning output |
| Event area available capacity warning (FULL) | EVENT-HDD FULL | – | AREA ERR EVENT-HDD FULL | Available disk space warning output |
| Copy area available capacity warning | COPY-HDD CAPACITY REMAINS **% | – | AREA ERR COPY-HDD **% | Available disk space warning output |

| Description of error | Error log | Network log | LCD | Output from connector |
|---|---|---|---|---|
| Copy area available capacity warning (FULL) | COPY-HDD FULL | – | AREA ERR COPY-HDD FULL | Available disk space warning output |
| Copy error | NO DATA COPY | – | – | – |
| Network link error | – | NETWORK LINK ERROR | NW ERR NW LINK ERROR | Network error output |
| Network camera error detection | CAM cc COMMUNICATION ERROR | – | NW ERR CAMERA cc ERROR | Camera error output |
| Network camera error detection (audio) | CAM cc COMMUNICATION ERROR (AUDIO) | – | NW ERR CAMERA cc ERROR | Camera error output |
| Network camera error recovery | CAM cc COMMUNICATION RECOVERED | – | – | – |
| Network camera error recovery (audio) | CAM cc COMMUNICATION RECOVERED (AUDIO) | – | – | – |
| Video loss detection[*4] | CAMcc VIDEO LOSS | – | – | Network error output |
| Video loss recovery[*4] | CAMcc VIDEO RECOVERED | – | – | – |
| E-mail transmission complete | – | <SMTP>MAIL_SEND | – | – |
| E-mail authentication error | – | <SMTP>SMTP_ATTEST_ERR | – | Network error output |
| Failed to resolve POP3 server address from DNS | – | <SMTP>POP3_ADD_ERR | – | Network error output |
| Failed to find POP3 server | – | <SMTP>POP3_SVR_ERR | – | Network error output |
| POP3 authentication error | – | <SMTP>POP3_ATTEST_ERR | – | Network error output |
| Failed to resolve SMTP server address from DNS | – | <SMTP>SMTP_ADD_ERR | – | Network error output |
| Failed to find SMTP server | – | <SMTP>SMTP_SVR_ERR | – | Network error output |
| MAIL FROM Command error | – | <SMTP>MAIL_FROM_ERR | – | Network error output |
| RCPT TO Command error | – | <SMTP>RCPT_TO_ERR | – | Network error output |
| Other errors for SMTP | – | <SMTP>OTHER_ERR | – | Network error output |
| FTP client transmission complete | – | <FTP>CLIENT_OK | – | – |
| FTP server transfer complete | – | <FTP>SVR_FWD_OK | – | – |
| Failed to resolve FTP server address from DNS | – | <FTP>SVR_ADD_ERR | – | Network error output |
| Failed to find FTP server | – | <FTP>SVR_ERR | – | Network error output |
| FTP uploading error | – | <FTP>UPLOAD_ERR | – | Network error output |
| FTP passive mode error | – | <FTP>PASSIVE_ERR | – | Network error output |

# Error log

| Description of error | Error log | Network log | LCD | Output from connector |
|---|---|---|---|---|
| FTP log-in failure | – | <FTP>LOGIN_FAULT | – | Network error output |
| FTP log-out failure | – | <FTP>LOGOUT_FAULT | – | Network error output |
| Other error for FTP | – | <FTP>OTHER_ERR | – | Network error output |
| DDNS IP address update | – | <DDNS>IP_ADD_UPDATE_OK | – | – |
| No response from the DDNS server | – | <DDNS>SVR_ERR | – | Network error output |
| Password error for DDNS user name | – | <DDNS>USER_PASS_ERR | – | Network error output |
| DDNS IP address update error | – | <DDNS>IP_ADD_UPDATE_ERR | – | Network error output |
| Other error for DDNS | – | <DDNS>OTHER_ERR | – | Network error output |
| Synchronization with the NTP server complete | – | <NTP>GET_TIME_OK | – | – |
| Failed to resolve NTP server address from DNS | – | <NTP>SVR_ADD_ERR | – | Network error output |
| Failed to adjust the time | – | <NTP>SET_TIME_ERR | – | Network error output |
| No response from the NTP server | – | <NTP>SVR_ERR | – | Network error output |
| Time from the NTP server is invalid | – | <NTP>TIME_INVALID | – | Network error output |
| Other errors for NTP | – | <NTP>OTHER_ERR | – | Network error output |
| SNMP transmission complete | – | <SNMP>SEND_OK | – | – |
| Password error for SNMP user name | – | <SNMP>USER_PASS_ERR | – | Network error output |
| SNMP object inquiry failure | – | <SNMP>OBJ_ERR | – | Network error output |
| Other errors for SNMP | – | <SNMP>OTHER_ERR | – | Network error output |
| Having IP address complete | – | <DHCP>IP_ADD_OK | – | – |
| DHCP IP address lost | – | <DHCP>IP_ADD_LOST | – | Network error output |
| DHCP IP address update failure xx% | – | <DHCP>IP_ADD_UPDATE_ERR | – | Network error output |
| DHCP IP address registration failure | – | <DHCP>IP_ADD_ENT_ERR | – | Network error output |
| Other error for DHCP | – | <DHCP>OTHER_ERR | – | Network error output |
| Password error for HTTP user name | – | <HTTP>USER_PASS_ERR | – | Network error output |
| HTTP download failure | – | <HTTP>DOWNLOAD_ERR | – | Network error output |
| HTTP request invalid | – | <HTTP>REQUEST_ERR | – | Network error output |

| Description of error | Error log | Network log | LCD | Output from connector |
|---|---|---|---|---|
| Other errors for HTTP | – | <HTTP>OTHER_ERR | – | Network error output |
| Move to Config | – | – | CONFIG | – |
| Camera SD memory card error | CAM cc SD ERR | – | NW ERR CAMERA cc SD ERROR | Camera error output |
| Request to start writing on the camera SD denied | CAM cc SD START ERR | – | NW ERR CAMERA cc SD ERROR | Camera error output |
| Request to finish writing on the camera SD denied | CAM cc SD END ERR | – | NW ERR CAMERA cc SD ERROR | Camera error output |
| Request to obtain a data list on the camera SD denied | CAM cc GET LIST ERR | – | NW ERR CAMERA cc SD ERROR | Camera error output |
| Request to obtain SD memory data on the camera SD denied | CAM cc GET IMG ERR | – | NW ERR CAMERA cc SD ERROR | Camera error output |
| Request to delete SD memory data on the camera SD denied | CAM cc DEL IMG ERR | – | NW ERR CAMERA cc SD ERROR | Camera error output |

*1 HDD remove error is an error that occurs when the hard disk drive is removed without pressing the respective USE button.

*2 In the RAID 5 mode or the RAID6 mode, only "Error log" is displayed, but neither "Indication on the LCD" nor "Output from the connector on the rear panel" is displayed.

*3 "HDD SKIP" is the function that continues recording even when an error occurs, such as an HDD write error, by recording images on the next HDD.

*4 "Video loss" is an error that may occur between the WJ-NT304, WJ-NT314 and the camera connected to the WJ-NT304.To detect video loss occurrences using the WJ-ND400, it is necessary to configure the "Panasonic alarm protocol " setting of the WJ-NT304, WJ-NT314, and the "Site alarm " setting of the WJ-ND400.

Refer to page 58 for information on symbols used on the table above.

# Error operations

## About the error operations

Do the following when the error log is displayed. Contact the dealer when an unlisted error occurred.

| Error log display | LCD | Description of error | Remedy |
|---|---|---|---|
| MAIN-d WRITE ERR (EXTu-d WRITE ERR) | | Failed to read or write data to the HDD. The HDD may have malfunctioned. | If this error occurs frequently, contact your dealer to have the HDD replaced. *1 |
| MAIN-d READ ERR (EXTu-d READ ERR) | | | |
| MAIN-d HDD SKIP (EXTu-d HDD SKIP) | | | |
| MAIN RAID5 1DOWN (EXTu RAID5 1DOWN) | MAIN ERR RAID5 1DOWN (EXTu ERR RAID5 1DOWN) | The HDD malfunctioned while in RAID mode. | Contact your dealer. After restoring or replacing the malfunctioning HDD, clear the error status. |
| MAIN RAID5 2DOWN (EXTu RAID5 2DOWN) | MAIN ERR RAID5 2DOWN (EXTu ERR RAID5 2DOWN) | | |
| MAIN RAID6 1DOWN (EXTu RAID6 1DOWN) | MAIN ERR RAID6 1DOWN (EXTu ERR RAID6 1DOWN) | | |
| MAIN RAID6 2DOWN (EXTu RAID6 2DOWN) | MAIN ERR RAID6 2DOWN (EXTu ERR RAID6 2DOWN) | | |
| MAIN RAID6 3DOWN (EXTu RAID6 3DOWN) | MAIN ERR RAID6 3DOWN (EXTu ERR RAID6 3DOWN) | | |
| MAIN-d SMART WARNING (EXTu-d SMART WARNING) | MAIN-d ERR SMART WARNING (EXTu-d ERR SMART WARNING) | The HDD malfunctioned and may not be usable. | Contact your dealer to have the HDD replaced. *1 |
| MAIN-d HOUR METER WARNING (EXTu-d HOUR METER WARNING) | MAIN-d ERR HDD HOUR METER WARNING (EXTu-d ERR HDD HOUR METER WARNING) | The time set on the Hour Meter has expired. The HDD may be near the end of its product life. | Contact your dealer to have the HDD replaced. *1 |
| NORMAL-HDD CAPACITY REMAINS **% | AREA ERR NORMAL HDD **% | When [Disk end mode] is [Stop], HDD is full or remaining capacity is low. | Reset or replace the HDD. *1 |
| EVENT-HDD CAPACITY REMAINS **% | AREA ERR EVENT HDD **% | | |
| EVENT-HDD FULL | AREA ERR EVENT HDD FULL | | |
| COPY-HDD CAPACITY REMAINS **% | AREA ERR COPY HDD **% | | |
| COPY-HDD FULL | AREA ERR COPY HDD FULL | | |
| CAM cc COMMUNICATION ERROR | NW ERR CAMERA cc ERROR | Communication with the network camera is unstable or the network camera is not connected. | Check the communication status with the network camera. |
| CAM cc COMMUNICATION ERROR (AUDIO) | | | |

| Error log display | LCD | Description of error | Remedy |
|---|---|---|---|
| NETWORK LINK ERROR | NW ERR<br>NW LINK ERROR | PORTp ERR, NW link error | Check the network connection. |
| CAM cc SD ERR | NW ERR<br>CAMERA cc SD ERROR | Abnormality with the camera's SD memory card.<br>An SD memory card was not detected or there is not enough space on the card. | Check the camera settings and the SD memory card. |
| CAM cc SD START ERR | NW ERR<br>CAMERA cc SD ERROR | Abnormality with the camera's SD memory card.<br>Communication with the network camera is unstable or the network camera is not connected. | Check the camera settings and the SD memory card.<br>Check the status of the connection with the network camera. |
| CAM cc SD END ERR | | | |
| CAM cc GET LIST ERR | | | |
| CAM cc GET IMG ERR | | | |
| CAM cc DEL IMG ERR | | | |

*1 The HDD should be replaced by the qualified service personnel or system installers. Contact the dealer to replace the HDD.

The (message) is displayed when an error occurs with the extension unit (WJ-HDE400).

## Parameter in the logs above

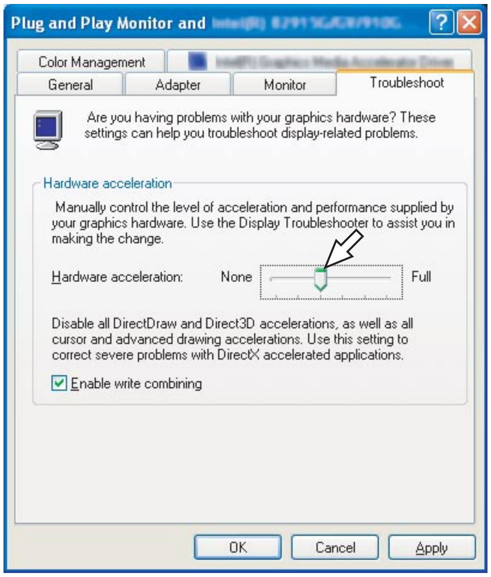
| Parameter | Description | Detail |
|---|---|---|
| u | Unit number | 1-5: Extension unit number |
| f | FAN number | 1-5: FAN number (FAN1-FAN5) |
| d | Disk number | 1-4: Disk number (HDD1-HDD9) |
| cc | Camera number | 01-64: Camera number |

# Troubleshooting

## Problems

Before requesting service, check the following items. Contact your dealer if the problem does not appear here, if the problem is not resolved by these remedies, or if you have any questions about settings and installation.

| Problem | Check item/remedy | Page |
|---|---|---|
| Cannot access from browser | Check if the 10BASE-T, 100BASE-TX, or 1000BASE-TX cable is connected to the network port. | – |
| | If the network port connection indicator does not light, the LAN is not connected or the network is not operating correctly.<br>Make sure that the connection indicator lights. Contact the system administrator if the indicator does not light. | – |
| | Refer to the system administrator to make sure the IP address is valid. | Setup Instructions (PDF file) |
| | Use the following procedure to check if you are accessing a valid IP address.<br>>ping "recorder IP address"<br>When reply is returned from the recorder, the connection is normal.<br>When reply is not returned, check the IP address and the subnet mask settings. | – |
| | Refer to the system administrator to make sure the IP address is different from another device. | Setup Instructions (PDF file) |
| | Check if the IP address of the recorder matches the subnet of the network. | Setup Instructions (PDF file) |
| | When the recorder and the client (PC) are on the same subnet, set the same subnet for the IP address. | Setup Instructions (PDF file) |
| | To access the recorder on the same subnet, it is recommended to set the recorder's address to "Don't Use Proxy For These Addresses". | Setup Instructions (PDF file) |
| Buttons on browser window are not displayed correctly | The browser's display may have troubles if you change the font settings from the initial settings. Use the initial font settings. | – |
| Some information does not appear on browser window | Press [F5] on the keyboard to refresh the window. | – |
| Image is not being refreshed | The image display may be stopped because of congestion on the network. Press [F5] on the keyboard to acquire the image again. | – |
| | Image data may not be refreshed if recording at low recording rate (less than 1 ips). | – |
| Live and recorded images in MPEG-4 format are not displayed in a normal manner | Display and recording may be unavailable for up to one minute directly after the recorder is turned on while cameras are active or a LAN cable is connected to the camera port. | – |

| Problem | Check item/remedy | Page |
|---|---|---|
| SD memory data is not displayed on rec event list | Data on SD memory cannot be played from a normal rec event list or from date search. Filter the rec event list by using [SD memory] of the rec event search and then select rec event list to play images. | – |
| | The recorded time on the SD memory data is the time set for the camera when the image is recorded on the SD memory card. Check the time set for the camera. | – |
| Cannot play SD memory data | If the recording consists of only a few frames, they may not be played back normally. When this happens, click "NEXT IMAGE" / "PREV IMAGE" to display the images. | – |
| Display in one image display area changes to multiple camera images when viewing MPEG-4 images in multiscreen | This may be caused by the combination of the PC's display adapter and driver. When this happens, first, update the driver of the display adapter.<br>• If this does not resolve the problem, use the following procedure to adjust the hardware accelerator function. This explanation uses Windows XP as an example.<br>1. Close all the browsers and then right-click the desktop and select "Properties" from the menu.<br>2. Select [Setting] tab from "Display Properties", and then click the [Advanced] button.<br>3. Click the [Troubleshoot] tab, and disable the DirectDraw acceleration by adjusting the level of [Hardware acceleration].<br><br> Plug and Play Monitor and<br>Color Management<br>General<br>Adapter<br>Monitor<br>Troubleshoot<br>Hardware acceleration<br>OK<br>Cancel<br>Apply<br>Are you having problems with your graphics hardware? These settings can help you troubleshoot display-related problems.<br>Manually control the level of acceleration and performance supplied by your graphics hardware. Use the Display Troubleshooter to assist you in making the change.<br>Hardware acceleration: None Full<br>Disable all DirectDraw and Direct3D accelerations, as well as all cursor and advanced drawing accelerations. Use this setting to correct severe problems with DirectX accelerated applications.<br>☑ Enable write combining | – |
| Cannot close confirmation window when basic operation window opens | Check the user name and password. | Setup Instructions (PDF file) |
| Cannot play back downloaded images | Download is stopped when the settings are changed. When this happens, the downloaded image cannot be played back. | – |
| [Please wait] is always displayed on window | ActiveX control is not installed. Install ActiveX control. | page 64 |

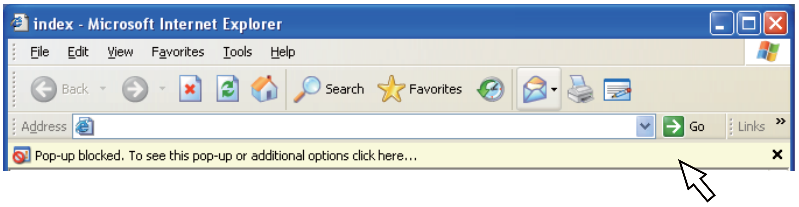
| Problem | Check item/remedy | Page |
|---|---|---|
| Audio is not recorded<br>Audio is not be played correctly | Is "Mic input" selected for "Audio mode" on the setup menu of the network camera? | Setup Instructions (PDF file) |
| | Is "32 kbps" selected for "Audio bit rate" on the setup menu of the network camera?<br>Check the settings of the camera. | Setup Instructions (PDF file) |
| | Audio may not play when playing the most recent images while recording images or audio.<br>If this happens, stop and then start playing the images again. | – |
| Cannot play audio using the Viewer software | • Are an image data (extension: n3r) and an audio data (extension: n3a) in the same folder?<br>Check the directory designated as the destination folder. | page 44 |
| Live image is not displayed | Check the settings for [NW camera] on the setup menu. | Setup Instructions (PDF file) |
| | Check the settings for live video on the setup menu. | Setup Instructions (PDF file) |
| | Check the IP address, subnet mask, and default gateway for the recorder and the network camera. | Setup Instructions (PDF file) |
| | When the camera's compression format is set to M-JPEG and when saving from the recorder's setup menu or measuring from the program settings repeatedly, a few minutes of live image are not recorded and instead a black screen appears. If this happens, wait about 10 minutes. | – |
| | The camera image may not be displayed in MPEG-4 format images via the Internet. Refer to your network administrator because it effects the router settings and other network devices. | – |
| Stops playback. Playback restarts after a short time | Time settings are changed through auto time adjustment. When the time in one record is not continuous, image playback may stop.<br>In this case, playback will restart after a short time. | – |
| Live and recorded images are not displayed | • Image is not displayed because ActiveX control is not installed correctly if logged in to a user's account with limited access privileges. Log in to a user account as an administrator.<br>• ActiveX control cannot be installed sometimes when you log in the network with domain authentication (Active Directory). Register trusted sites and add the security setting.<br>1. Start up Internet Explorer and click on "Tools".<br>2. Click "Internet options".<br>3. Click the "Security" tab, and select "Trusted sites".<br>4. Set "Low" for "This zone's security level" (lowering the security level lowers the security level of the PC being used).<br>5. Click "Site". Do "Add" to URL of the recorder. When you do this, check that the "Must check all servers (https:) of sites in this zone" check box is not selected. | – |

| Problem | Check item/remedy | Page |
|---|---|---|
| • Refresh of live images is unstable<br>• Browser disconnection occurs<br>• Network performance is poor<br>• Downloaded image is not displayed correctly<br>• The image is not displayed, recorded, or played back correctly. | If the cameras use different compression formats, the performance may be poor (image update is unstable). | – |
| | The settings may exceed the performance limit of network cable or the recorder's network.<br>Lower the value/rate related to network performance, such as the live transmission rate and the recording rate. | Setup Instructions (PDF file) |
| | The recorder and the HUB network speed may not match (100BASE- TX Full and 100BASE-TX Half, for example). A HUB may cause variations in network transmission speeds.<br>Set the HUB's transmission speed and the recorder's network transmission speed to the same speed. | – |
| Cannot operate camera | Make sure that the number of the camera set in [NW camera] on the setup menu is correct. | Setup Instructions (PDF file) |
| | Make sure that the user name and password in [NW camera] on the setup menu have been input. | Setup Instructions (PDF file) |

## Message display

The following problems may occur depending on the operating environment. If these problems occur, use the appropriate remedy to solve it. The following remedies do not affect other applications or security.

The "Information bar" used in the following problems and remedies indicates the message bar that appears under the address bar in Internet Explorer.



Pop-up blocked. To see this pop-up or additional options click here...

| Problem | Remedy |
|---|---|
| The following message appears in the information bar. "Pop-up blocked. To see this pop-up or additional options, click here..." | Click the information bar and select "Allow popups from this site...". A prompt asking "Allow popups from this site" appears, click the "Yes" button. |
| The following message appears in the information bar. "This site may require the following ActiveX control: Install 'wvasetup.exe' from 'Matsushita Electric Industrial Co., Ltd.' and click here..." | Click the information bar and select "Install ActiveX Control...".<br>A security warning window appears, click the "Install" button. |
| The following message appears in the information bar. "Internet Explorer has blocked the file being downloaded to your computer from this site as a security measure. Click here to display options..." | Click the information bar and select "Download File...".<br>If you cannot download the file even after doing the following operations, do the following.<br>Open Internet Explorer's security settings window, select "Download" - "Automatic prompting for file downloads"-"Enable" and then click the "OK" button. A warning window appears, click the "Yes" button. |
| The following security warning window appears when you try to download a file. "The publisher could not be verified. Are you sure you want to run this software?" | Click the "Run" button. |
| Unnecessary status bar or scroll bar appears in popup | Open Internet Explorer's security settings window, select "Allow unlimited size and position of script when opening windows" - "Enable" and then click the "OK" button. A warning window appears, click the "Yes" button. |

# Glossary

## Words used in the manual

This manual uses the following words.

### ActiveX Control

A software module developed by Microsoft. It is used to add functions, downloaded from a web server via the Internet or an Intranet, to Internet Explorer. The recorder uses it to display video.

### Bit rate

Indicates how many bits of data can be processed or transmitted in a unit of time. Generally, the units are in bps, or bits per second. Used to indicate the compression rate of video and audio data, and how much data a communications line can send and receive in 1 second.

### Broadband Router

Router used to access the Internet via high-speed ADSL or fiber optic lines.

### Cable Modem

Device used for connecting to the Internet via a CATV line. Called a cable modem because it functions similar to a modem on a phone line. It differs from regular modems that use a serial port in that it is connected to a PC via an Ethernet connection.

### Camera operation

Operations of the camera connected to the recorder such as pan and tilt (horizontal and vertical position), zooming, focusing, brightness, preset motions (movement towards a set horizontal and vertical position) and auto functions (automatic camera rotation, etc.).

### DDNS

A technology for dynamically translating DNS server information to enable the transfer of only differences in information between DNS servers (refer to "DNS"). This reduces the data transfer amount necessary for updating information on the DNS server and reduces the load on the network.

### DHCP

A protocol that enables PCs to automatically get information from a server needed for accessing a network.

### DHCP Server

Maintains network-related information (assigns IP address ranges to (default) gateway servers and clients), and distributes that information when clients request it.

### DNS

The long lists of numbers or IP addresses that are used in network environments are difficult to remember, which makes them impractical. This is why PCs are given an easy-to-follow name (domain name) which is converted to an IP address before they are communicated with. The DNS provides translation between domain names and IP addresses.

### Default Gateway

Network device used as a gateway for networks, such as a local network, to access PCs on an external network. Data is sent using the default gateway if a gateway is not specified in the destination IP address.

### Disk Configuration

Configure the HDD after replacing, removing, or adding a HDD. Disk Configuration is the menu for configuring the HDD.

### Electronic Zoom

Enlarges live images and playback images during playback. The electronic zoom enlarges the images by the recorder and is separate from the zoom function included as part of the camera operations for enlarged images.

### Emergency Recording

Gives priority to recording video and audio when an emergency occurs using the external switch connected to the recorder.

### Ethernet

LAN communication developed by Xerox.

### Event

Indicates an occurrence that causes the recorder to take an event action. Events include, terminal alarms, command alarms, and site alarms.

### Event recording

Function that automatically starts video and audio recording when an event occurs. Event recording includes Pre-event recording that records images before the event and Post-event recording that records images after the event.

### External Recording Mode

Use the external switch connected to the recorder to switch to time tables such as the recording settings and event action settings.

### FTP

A protocol that is commonly used for transferring files over the Internet.

### Firewall

A type of security used when accessing outside networks like the Internet.

### Full Duplex

Communications method that allows simultaneous sending and receiving by transmitting in both directions using an independent sending line and receiving line.

### Global Address

IP address assigned to each device connected to the Internet that is equivalent to an address on the Internet. IP address is required for Internet communications.

### HDD

Abbreviation for hard disk drive, a type of mass storage device. Camera images are recorded onto a hard disk drive.

### HTML

HTML is a markup language used for describing the logical structure of a document and its appearance. Links to images, audio, video and other documents can be inserted into the document. A web browser is used to view documents written in HTML.

### Half Duplex

Communications method that switches between sending and receiving using a single communications line.

### IP Masquerading

A technology for sharing a single global address between two or more PCs. Allows simultaneous connection of multiple machines to 1 global address to dynamically convert NAT and different TCP/UDP port numbers.

### IP address

The identification number assigned to PCs connected via IP networks such as the Internet or an Intranet, or to individual communications devices. Do not assign the same address to multiple devices, especially on the Internet.

### Internet

PC network that connects networks all over the world. Different types of PCs can communicate over the Internet.

### LAN

A communications network for connecting PCs, printers and other network devices in a relatively small area such as in a building or floor of a building or campus in which data is transferred.

### M-JPEG

Video format in which the camera sends continuous JPEG images. Compared with sending images from the camera one at a time, this method reduces the load on the network. However, the transfer rate may change depending on the status of the camera. Images may be represented as a JPEG depending on the camera.

### MAC address

Fixed physical address assigned to network devices. Devices send and receive data based on this.

### Manual recording

Click the [Recording] button and the [Recording stop] button to manually start and stop recording of video and audio.

### Multicast

A way to send the same data to multiple users specified on a network.

### Multiscreen Display

This recorder can display multiple camera channels simultaneously while displaying live images or playback images.

### NAT (Network Address Translation)

A technology for sharing a single global address between two or more PCs.

### NTP (Network Time Protocol)

A protocol developed to accurately maintain time among hosts on the Internet.

### POP 3

A protocol for receiving e-mail stored on a server on the Internet or an Intranet.

### POP 3 Server

A server that supports POP3, currently the most widely used mail sending protocol.

### Plug-in Software

Small programs used to add functions to application software.

### PoE (Power over Ethernet)

A technique for supplying power and data simultaneously over an Ethernet cable. PoE was standardized in June, 2003 as "IEEE802.3af".

### PoE Supplied Hub

A switching hub that provides PoE functionality. A maximum of 48 V 15.4 W of power can be supplied to cameras and other devices.

### Port Number

A sub address set below the IP address to connect multiple parties simultaneously for communication (TCP, UDP, etc.) on the Internet.

### Primary Server

DNS servers usually have more than 2 system and the primary server is the main system.

### Private Address

IP address assigned when connecting primarily to LAN. Private IP addresses can be assigned freely on a network and do not require a formal application. However, because private IP addresses cannot be used to access the Internet, a router or other device it is necessary to assign a global IP address.

### Protocol

A set of rules that allows the exchange of data amongst different types PCs with information. The Internet uses the TCP/IP protocol as its base and information is transferred following http and ftp protocols depending on the application.

### Proxy Server

PC or software that connects with the Internet as the proxy for a computer on a local network. It allows special connections from the internal network and blocks unauthorized access from external networks.

### RAID (RAID5)

An abbreviation for Redundant Arrays of Inexpensive Disks 5 that provides a highly reliable disk array by distributing access over multiple HDDs, increasing both speed and capacity. Even if one HDD has errors, data can be recovered based on error correction data recorded on other HDDs. (RAID5 is used when 3 or more HDDs are connected. However, when 2 or more HDDs simultaneously have errors, data cannot be recovered.)

### RAID (RAID6)

An abbreviation for Redundant Arrays of Inexpensive Disks 6 that provides a highly reliable disk array by distributing access over multiple HDDs, increasing both speed and capacity. Even if two HDD has errors, data can be recovered based on error correction data recorded on other HDDs. (RAID6 is used when 4 or more HDDs are connected. However, when 3 or more HDDs simultaneously have errors, data cannot be recovered.)

### Recording rate (ips, I-Frame)

Unit that determines the smoothness when recorded images are played back. "ips" indicates the number of recorded frames in 1 second. When the recording rate is higher, the playback is smoother, but available recording time is reduced. I-Frame indicates the refresh rate set on the camera.

### Resolution

Indicates the smoothness of the image quality and the size of the images recorded from the camera. Indicates the number of dots used in the image displayed on the screen. A horizontal resolution of 720 dots and a vertical resolution of 480 dots is expressed as 720-480.

### Router

Placed in between different networks, a router sends data to the proper destination via network. If data on the network is addressed to an external network, routers send the data to the outside of the network after judging the optimum sending route.

### SD memory recording, SD memory data

SD memory recording is a camera function that saves images in the camera's internal SD memory when communication with the camera is disconnected within the time table recording time set on the recorder. SD memory data refers to those images recorded on the card.

### SMTP

A protocol for sending e-mail on the Internet or an Intranet. Used when transferring mail between servers or when clients send mail to the server.

### SMTP authentication

SMTP mail transfer protocol appended with a user authentication function. It authenticates passwords and user accounts between SMTP servers and clients. Both SMTP servers and clients must support SMTP authentication.

### SMTP Server

A server that supports SMTP, currently the most widely used mail transfer protocol.

### SNMP

A protocol for monitoring and managing networked communications devices, such as routers, PCs, cameras and Network Disk Recorders via a network.

### Schedule Recording

Function that automatically starts video and audio recording on a preset time schedule.

### Secondary Server

DNS servers usually have more than 2 systems and the secondary server is the sub system. If there is trouble with the primary server, the secondary server takes over.

### Sequence

Function that automatically switches the camera image in a preset order. Sequence is available on the recorder when live images are displayed.

### Subnet

A small network used as a unit of administration when a larger network is divided into smaller networks. Large networks in corporations, for example, the network can be broken down into smaller networks called "subnets" to make the network more manageable and lines used more efficiently. In this case, these smaller networks are called subnets.

### Subnet mask

Subnet mask consists of 32-bit numeric values. According to the values, devices can determine which part of the address is the network address and which part is the host address.

### System Administrator

Person with the responsibility for setting up and monitoring the recorder.

### TCP/IP

The standard network protocol for the Internet and Intranets.

### URL

An address for locating information resources such as documents and images on the Internet.

### Unicast

Way to send data to a single IP address on a network.

### VPN

Service used to make public lines as private lines. Many companies are using this as a new medium of communication instead of costly private lines. Depending on service, VPN also provides a secure line using authentication technology and encryption.

### Video Motion Detection (VMD)

Function that automatically detects objects moving in video images.

The main unit records the VMD information sent from the camera and has a VMD search function (*) to find images for only the time and date at which motion was detected.

* Refer to the readme.txt for information about cameras that support VMD search.

### WAN

Allows physically separated PCs, such as between the head office and a branch office, to connect via a phone line or private line data for exchanging.

### Web Browser

Application software necessary for viewing web pages. The software downloads HTML, image, and sound files from the Internet and displays them after analyzing them. Microsoft Internet Explorer is one of the web browsers.

# Index

1-screen ..... 27
4-screen ..... 31

**A**
Access log ..... 37
ActiveX ..... 9
Alarm action ..... 34
Alteration detection ..... 42, 46
Area selection ..... 26

**C**
CAM tab ..... 17
Cam. select button ..... 12
Camera control ..... 29
Config. ..... 57
Contents of the alarm mail ..... 49
Control button ..... 11
Copying ..... 39
Current time display area ..... 10

**D**
DDNS ..... 56
DHCP ..... 56
Disk information ..... 48
DNS ..... 52, 55, 56

**E**
Electronic zoom ..... 21
Emergency recording ..... 14, 34
Error log ..... 37, 52
Error operations ..... 35, 58
Event ..... 33
Event functions ..... 33
Event log ..... 38

**F**
FILTERING ..... 14
FTP ..... 47
FTP transmission by periodic timer ..... 47

**H**
HDD ..... 26
HDD capacity warning ..... 49
HDD SKIP ..... 54
HDD tab ..... 15
Hour meter ..... 48

**I**
Information bar ..... 64
IP address ..... 8

**J**
JPEG ..... 45

**K**
Keylock mode ..... 36

**L**
Lock ..... 36
Log ..... 11

**M**
MAC address ..... 48
Manual deletion ..... 41
Manual recording ..... 18
Multiscreen ..... 21, 31
Multiscreen select ..... 31

**N**
Network log ..... 38, 52
Network log registration count ..... 38
NTP ..... 56

**P**
Password ..... 8
Playback position operations ..... 15
POP3 ..... 55
Preset ..... 30
Protocol ..... 33

**R**
RAID5 ..... 53, 54
RAID6 ..... 53, 54
Rec event list ..... 12, 23
Rec event search ..... 22, 24
Recording mode access priority ..... 18
Recording rate ..... 18, 19
RECOVER ..... 14
Refresh ..... 7

**S**
Schedule recording ..... 18
SD memory data acquisition ..... 14
SD memory recording ..... 18
Search ..... 24, 25
Send mail ..... 47
SEQ ..... 31
Sequence ..... 31
Setup button ..... 13
SMTP ..... 55
SNMP ..... 56
Standard ch ..... 24
Standard channel ..... 22
Status display area ..... 14
System administrator ..... 8
System information ..... 48

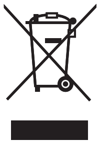
**T**
Transmitting data ..... 47

**U**
URL ..... 8
User mng. ..... 13
User name ..... 8

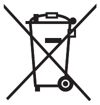
**V**
Video motion detection ..... 25
Viewer software download ..... 43
Viewer software install ..... 43
Viewer software uninstall ..... 44
VMD search ..... 25

**W**
Warning mail notification ..... 49
Web browser ..... 8

## Information for Users on Collection and Disposal of Old Equipment and used Batteries

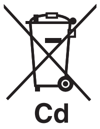


These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.
For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.
By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.
For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.
Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.



**For business users in the European Union**
If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

**[Information on Disposal in other Countries outside the European Union]**
These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.



**Note for the battery symbol (bottom two symbol examples):**
This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

**For U.S., Canadian and Puerto Rican fields:**

**Panasonic System Solutions Company,**
Unit Company of Panasonic Corporation of North America
www.panasonic.com/business/
For customer support, call 1.800.528.6747
Three Panasonic Way 2H-2, Secaucus, New Jersey 07094

**Panasonic Canada Inc.**
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3 Canada (905)624-5010
http://www.panasonic.ca

**Panasonic Sales Company**
Division of Panasonic Puerto Rico Inc.
San Gabriel Industrial Park 65th Infantry Ave. KM. 9.5
Carolina
P.R. 00985(809)750-4300

**For European and other fields:**

**Matsushita Electric Industrial Co., Ltd.**
Osaka, Japan
http://panasonic.net

Importer’s name and address to follow EU rules:

Panasonic Testing Centre
Panasonic Services Europe GmbH
Winsbergring 15, 22525 Hamburg F. R. Germany

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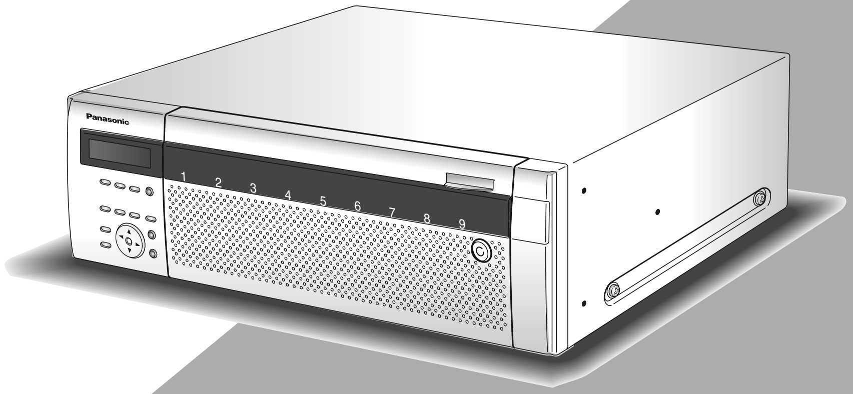
Panasonic

# Network Disk Recorder

# Installation Guide

Model No. **WJ-ND400**



Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

We declare under our sole responsibility that the product to which this declaration relates is in conformity with the standards or other normative documents following the provisions of Directives 2006/95/EC and 2004/108/EC.

Wir erklären in alleiniger Verantwortung, daß das Produkt, auf das sich diese Erklärung bezieht, mit der folgenden Normen oder normativen Dokumenten übereinstimmt. Gemäß den Bestimmungen der Richtlinie 2006/95/EC und 2004/108/EC.

**WARNING:**

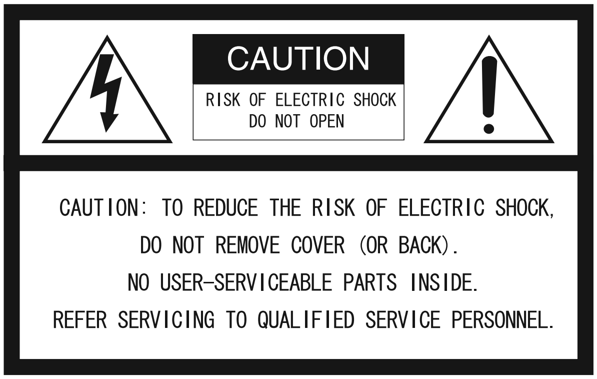
- This apparatus must be earthed.
- Apparatus shall be connected to a main socket outlet with a protective earthing connection.
- The mains plug or an appliance coupler shall remain readily operable.
- To prevent fire or electric shock hazard, do not expose this apparatus to rain or moisture.
- The apparatus should not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, should be placed on the apparatus.
- All work related to the installation of this product should be made by qualified service personnel or system installers.
- The connections should comply with local electrical code.

**CAUTION:**

Before attempting to connect or operate this product, please read the label on the bottom.

**CAUTION:**

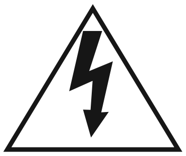
An ALL-POLE MAINS SWITCH with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.



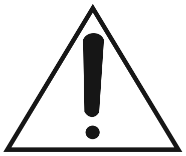
CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Power disconnection. Unit with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is in the ON position. Unplug the power cord to disconnect the main power for all units.

Nous déclarons sous note seule responsabilité que le produit auquel se réfère la présente déclaration est conforme aux normes ou autres documents normatifs conformément aux dispositions des directives 2006/95/CE et 2004/108/CE.

Nosotros declaramos bajo nuestra única responsabilidad que el producto a que hace referencia esta declaración está conforme con las normas u otros documentos normativos siguiendo las estipulaciones de las directivas 2006/95/CE y 2004/108/CE.

Noi dichiariamo sotto nostra esclusiva responsabilità che il prodotto a cui si riferisce la presente dichiarazione risulta conforme ai seguenti standard o altri documenti normativi conformi alle disposizioni delle direttive 2006/95/CE e 2004/108/CE.

Wij verklaren als enige aansprakelijke, dat het product waarop deze verklaring betrekking heeft, voldoet aan de volgende normen of andere normatieve documenten, overeenkomstig de bepalingen van Richtlijnen 2006/95/EC en 2004/108/EC.

Vi erklærer os eneansvarlige for, at dette produkt, som denne deklaration omhandler, er i overensstemmelse med standarder eller andre normative dokumenter i følge bestemmelserne i direktivene 2006/95/EC og 2004/108/EC.

Vi deklarerar härmed värt fulla ansvar för att den produkt till vilken denna deklaration hänvisar är i överensstämmelse med standarddokument, eller andra normativa dokument som framställs i direktiv nr. 2006/95/EC och 2004/108/EC.

Ilmoitamme yksinomaisella vastuullamme, että tuote, jota tämä ilmoitus koskee, noudattaa seuraavia standardeja tai muita ohjeellisia asiakirjoja, jotka noudattavat direktiivien 2006/95/EC ja 2004/108/EC säädöksiä.

Vi erklærer oss alene ansvarlige for at produktet som denne erklæringen gjelder for, er i overensstemmelse med følgende normer eller andre normgivende dokumenter som følger bestemmelsene i direktivene 2006/95/EC og 2004/108/EC.

For U.K.

**FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.**

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amp and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark or the BSI mark on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

**IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.**

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

**WARNING: This apparatus must be earthed.**

**IMPORTANT**

The wires in this mains lead are coloured in accordance with the following code.

| | |
|---|---|
| Green-and-yellow: | Earth |
| Blue: | Neutral |
| Brown: | Live |

As the colours of the wire in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

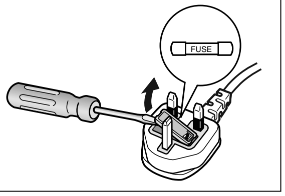
The wire which is coloured **green-and-yellow** must be connected to the terminal in the plug which is marked with the letter **E** or by the earth symbol ⏚ or coloured **green** or **green-and-yellow**.

The wire which is coloured **blue** must be connected to the terminal in the plug which is marked with the letter **N** or coloured **black**.

The wire which is coloured **brown** must be connected to the terminal in the plug which is marked with the letter **L** or coloured **red**.

**How to replace the fuse**

Open the fuse compartment with a screwdriver and replace the fuse and fuse cover.



For U.S.A.

The model number and serial number of this product may be found in the unit. You should note the model number and serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. ____________________________

Serial No. ____________________________

For Canada

This Class A digital apparatus complies with Canadian ICES-003.

For U.S.A.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Caution: To assure continued compliance, (example - use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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(7) LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE.

# Important Safety Instructions

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

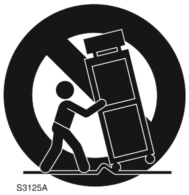
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11) Only use attachments/accessories specified by the manufacturer.

12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

# Contents

## Preface

Preface .......... 7
About these Operating Instructions .......... 7
System Requirements for a PC .......... 8
Trademarks and Registered Trademarks .......... 8
Network Security .......... 8
Precautions .......... 9
**Major Operating Controls and Their Functions .......... 11**
Front View .......... 11
Inside the Front Cover .......... 13
Rear View .......... 15
  Using the Brace .......... 15

## Description of Functions

**Outline of Functions .......... 16**
HDD .......... 16
  Mega Pixel Camera Compatibility and Capacity .......... 16
  Replace HDDs .......... 16
  HDD Space Management .......... 16
  HDD Fault Tolerance System .......... 17
  Encrypting Data Recorded on the HDDs .......... 17
Recording and Playing Images .......... 18
  Stable recording and playback of images .......... 18
  Setting Schedules .......... 18
  Event Functions .......... 18
  List of Functions .......... 19
  Setup Menu List .......... 19
Network .......... 20
  Remote Operation .......... 20
  Network Security Function .......... 20
  SD Memory Recording .......... 21
  Maintenance (Version Upgrade) .......... 21

## Installation and Setup

**Getting Started .......... 22**
Setup Procedure .......... 22
**Setting up the Rack .......... 23**
Rack Mounting .......... 23
Rack mounting positions .......... 24
**Connections .......... 25**
Connecting the PC and the Camera .......... 25
  1 Port Operation .......... 25
  2 Port Operation .......... 26
  Example of Connectivity with 1 Port Operation .......... 27
  Example of Connectivity with 2 Port Operation .......... 29
Connecting the Extension Unit .......... 31

**About Connectors....................................................32**
- Using the Alarm/Control connector .................................... 32
  - Pin Assignments .................................... 32
  - Connectivity for Emergency Recording.................................... 33
  - Connectivity for Switching to External Recording .................................... 33
  - Auto Adjustment Time Function Connection 1.................................... 33
  - Auto Adjustment Time Function Connection 2.................................... 34
  - Connectivity for Control Output.................................... 34
  - Uninterruptible Power Supply (UPS) Connectivity.................................... 35
- Using the Alarm Connector.................................... 36
  - Pin Assignments .................................... 36
  - Alarm Connectivity.................................... 37
- Alarm/Control connector and Alarm Connector Timing and Polarity .................................... 38

**Power Supply ....................................................39**
- Turning On the Power.................................... 39
- Turning Off the Power.................................... 39
  - During Recording.................................... 39
  - During Playback.................................... 39

**Using the Front Panel for Operations ....................................................40**
- Basic Operations.................................... 40
- Checking System Information .................................... 41
- Checking the IP Address .................................... 42
- Setting the IP Address .................................... 43
  - Configuring the Settings for Each Item .................................... 43
- Setting and Canceling Key Lock .................................... 43
- HDD Unit.................................... 44
- Handling the HDD .................................... 45
  - Installing HDDs .................................... 46
  - Installing HDDs by unit.................................... 47
  - Removing HDDs .................................... 48
  - Removing HDDs by unit.................................... 50
  - Setting the HDD's Operation Mode.................................... 51
- HDD Error Recovery (During RAID Operation).................................... 52
  - Replacing Faulty HDD during RAID Operation .................................... 53
- Rebooting.................................... 54

## Attachments

**Troubleshooting....................................................55**
- Problems.................................... 55

**Specifications....................................................57**
- WJ-ND400 .................................... 57

**Accessories....................................................58**
- Standard Accessories .................................... 58

**Index....................................................59**

# Preface

The Network Disk Recorder (WJ-ND400) is for recording images and audio from network surveillance cameras to a hard disk (hereafter HDD). It is possible to connect up to 64 cameras over a network.

Also, it is possible to access and operate the recorder via a network from the web browser on a computer (hereafter PC). A maximum of 16 PCs can be connected (via a network).

- The network settings for the PC need to be done to do settings and operations from the PC. A web browser must also be installed.

# About these Operating Instructions

There are four manuals, they include the Installation Guide, Setup Instructions (PDF file), Operating Instructions (PDF file), and the Quick Reference Guide.

- Installation Guide (book, these operating instructions) : How to configure required settings and connect the equipment.
- Setup Instructions (PDF file) : How to configure required settings and connect the equipment to perform operations from a PC over a network.
- Operating Instructions (PDF file) : How to perform operations from a PC.
- Quick Reference Guide : Basic settings and frequently used functions.

Adobe® Reader is required to read the “Operating Instructions” and the “Setup Instructions” on the provided CD-ROM. When the Adobe® Reader is not installed on the PC, download the latest Adobe® Reader from the Adobe web site and install it.

In this manual and on the screen, the ND400 and the recorder are shown as WJ-ND400.

Refer to the "readme.txt" file on the CD-ROM bundled with the recorder for information about the versions and types of separately available software and cameras supported.

The following abbreviations are used in this document.

Microsoft® Windows Vista® Business (32-bit) is called Windows Vista®.

Microsoft® Windows® XP Professional SP2, and Microsoft® Windows® XP Home Edition SP2 are called Windows® XP.

# System Requirements for a PC

It is recommended to operate this unit using a PC that meets the following system requirements.

- OS : Microsoft® Windows Vista® Business (32-bit)
  : Microsoft® Windows ® XP Professional SP2*
  : Microsoft® Windows ® XP Home Edition SP2*
- OS Language : English, French, Spanish, German, Italian, Russian, Chinese
- CPU : Pentium® 4 3.0 GHz or faster
- Memory : 1 GB or more (512 MB or more is required when using Microsoft® Windows® XP.)
- Monitor : Resolution: 1 024 x 768 pixels or more
  Color: 24-bit True color or better
- Network interface : 10/100/1 000 Mbps Ethernet port x1
- Web Browser : Windows® Internet Explorer® 7.0
  : Microsoft® Internet Explorer® 6.0 SP2*
- Audio interface : Sound card (when using the audio function)
- Other : CD-ROM drive: It is necessary to read the operating instructions and use the software on the provided CD-ROM.
  : DirectX® 9.0c or later
  : Adobe® Reader®: It is necessary to read the operating instructions on the provided CD-ROM.

* Microsoft® Internet Explorer® 6.0 SP2 is required when using Microsoft® Windows® XP Professional SP2 or Microsoft® Windows® XP Home Edition SP2.

**Important:**

- When using a PC that does not meet the above requirements, displaying of images may become slow or the web browser may become inoperable.
- Audio may not be heard if a sound card is not installed on a PC. Audio may be interrupted depending on the network environment.
- Refer to "Notes on Vista®" (PDF) for further information about system requirements for a PC and precautions when using Microsoft® Windows Vista®.

# Trademarks and Registered Trademarks

- Adobe Reader is a trademark or registered trademark of Adobe Systems Incorporated in the USA and other countries.
- Microsoft, Windows, Windows Vista, Internet Explorer, ActiveX and Direct X are trademarks or registered trademarks of Microsoft Corporation in the USA and other countries.
- Intel and Pentium are trademarks or registered trademarks of Intel Corporation and its subsidiaries in the USA and other countries.
- RSA is a registered trademark of RSA Security Inc. BSAFE is a registered trademark of RSA Security in the USA and other countries.
- Other names of companies and products contained in these operating instructions may be trademarks or registered trademarks of their respective owners.

# Network Security

As you will use this product connected to a network, your attention is called to the following security risks.

1. Leakage or theft of information through this product
2. Use of this product for illegal operations by persons with malicious intent
3. Interference with or stoppage of this product by persons with malicious intent

It is your responsibility to take precautions such as those described below to protect yourself against the above network security risks.

- Use this product in a network secured by a firewall, etc.
- If this product is connected to a network that includes PCs, make sure that the system is not infected by computer viruses or other malicious entities (using a regularly updated anti-virus program, anti-spyware program, etc.).
- Protect your network against unauthorized access by restricting users to those who log in with an authorized user name and password.
- Apply measures such as user authentication to protect your network against leakage or theft of information, including image data, authentication information (user names and passwords), alarm mail information, FTP server information and DDNS server information.

# Precautions

- **Refer all work related to the installation of this product to qualified service personnel or system installers.**

- **Do not operate the unit beyond their its specified temperature, humidity, or power source ratings.**

  Use the unit at temperatures between +5 °C - +45 °C {41 °F - 113 °F} and where the humidity is between 5 % - 90 %.

  The input power source for NTSC model is 120 V AC 60 Hz, for PAL model is 220 V - 240 V AC 50 Hz.

  Performance and lifetime of hard disk drives are easily affected by heat (used at high temperature) characteristically. It is recommended to use this unit at temperatures between +20 °C - +30 °C {68 °F - 86 °F}.

- **POWER switch**

  The POWER switch is located on the rear of the unit. Even though the POWER switch is set to "OFF", the power supply will not be cut. To cut the power supply, unplug the power plug of the unit from the AC outlet. When using the power supply control unit, turn off the power of the power supply control unit.

- **Built-in backup battery**

  Before the first use, charge the built-in backup battery (lithium battery) by turning on the power for 48 hours or more.

  If it is not charged enough, in a case where the power goes down, the internal clock may keep bad time or the operative condition may be different to that before the electric power failure.

  The built-in battery life is approximately 5 years as an indication of replacement. (This is just an indication of replacement. We are not providing any guarantee of the built-in battery lifetime. Replacement cost of the built-in battery is not covered by the warranty even if it needs to be done within the warranty period.) Ask the dealer where you purchased the unit when replacement of the battery is required.

- **Hard disk drives**

  Hard disk drives are vulnerable to vibration. Handle them with care.

  It is possible to damage them if they are moved while their motors are still running. Do not move them just after turning their power on or off (for around 30 seconds).

  - A lifetime of hard disk drives is limited by use.

    It is recommended to replace them after around 18 000 hours of operation to prevent data loss from disk failures.

    Write error may occur frequently after around 20 000 hours of operation and the head and motor deterioration may occur and will reach their lifetime after 30 000 hours of operation when they have been used at the recommended ambient temperature (approx. +25 °C {77 °F}).

  When hard disk drive trouble occurs, replace it immediately. Consult your dealer for servicing.

  - Hard disk drives are precise devices. Do not leave them where the temperature is high and humid.
  - Do not touch the connector of the removable hard disk by hand directly to protect the hard disk drive from static electricity.
  - Take notice of the following for the removed hard disks.
    - Do not leave them where the temperature is high and humid. It may cause condensation.
    - Place them where the temperature is between 0 °C {32 °F} and 30 °C {86 °F} and humidity is between 20 - 40 % when they are not used for a long time (six months or more). Consult your dealer for further information.
    - Operate them for around an hour at least once every six months when they are not used for a long time.
    - When placing them stacked, do not stack more than four disks.

- **Heat dissipation**

  Refer to the following to prevent fire and malfunction of the unit.

  - Do not block the front and rear for smooth ventilation.
  - Keep the unit 5 cm {1.97 "} or more away from the both sides and the upper side.
  - Keep clean the ventilation openings of the unit to prevent overheating.
  - A lifetime of the cooling fan is limited by use.

- **Grounding**

  Confirm that the wire is connected from the SIGNALGND terminal to earth ground.

  A grounding connection must be made before connecting the power plug of the unit to the main power supply.

  When disconnecting the grounding wire, make sure that the power plug of the unit is disconnected from the main power supply.

- **Avoid placing the unit near noise sources**

  If the unit is placed near noise sources such as fluorescent lamps, noises may be produced. In this case, rewire avoiding the noise sources, or move the unit to the place far from them.

- **Places to avoid**

  Do not place the unit in the following places:

  - Places exposed to direct sunlight
  - Places subject to having strong vibration or impact
  - Near magnetic field sources such as a television or speakers
  - Place where condensation forms easily, where temperature changes greatly, humid places
  - Steamy and oily places such as kitchens
  - Places which are not level

- **Cleaning**

  Turn the power off when cleaning the unit. Otherwise it may cause injuries.

  Do not use strong or abrasive detergents when cleaning the unit body.

  Use a dry cloth to clean the unit when it is dirty.

  When the dirt is hard to remove, use a mild detergent and wipe gently.

- **Indication label**

  Refer to the indication label placed on the surface of the unit as to the indications of equipment classification and power source, etc.

- **Handle the unit with care.**

  Do not strike or shake, as this may damage the unit.

- **Do not strike or give a strong shock to the unit.**

  It may cause damage or allow water to enter the unit.

- **Place the unit horizontally on a level surface.**

  Do not place the unit in an upright position. When stacking multiple units, clear a space of more than 5 cm {1.97 "} from both sides, the top, the bottom and the rear of the units.

- **Avoid placing receptacles that contain liquids such as water near the unit.**

  If liquid spills onto the unit, it may cause fire or an electric shock.

- **Prevent condensation from forming on the surface of the hard disk.**

  If this happens, do not turn on the power of the recorder and leave the recorder for around 2 hours.

  Wait until the dew evaporates in any of the following cases:

  - The recorder is placed in an extremely humid place.
  - The recorder is placed in a room where a heater has just been turned on.
  - The recorder is moved from an air-conditioned room to a humid and high-temperature room.
  - When the unit has not been used for a certain period, turn on the power of the unit (approximately once a week), and perform recording/playback to prevent interferences with functions.
  - We recommend that you make a note of your settings and save them. This will help when you are required to change the system configuration, or when unexpected trouble or failure occurs.
  - Distributing, copying, disassembling, reverse compiling, reverse engineering, and also exporting in violation of export laws of the software provided with this product, is expressly prohibited.

- **MPEG-4 Visual patent portfolio license**

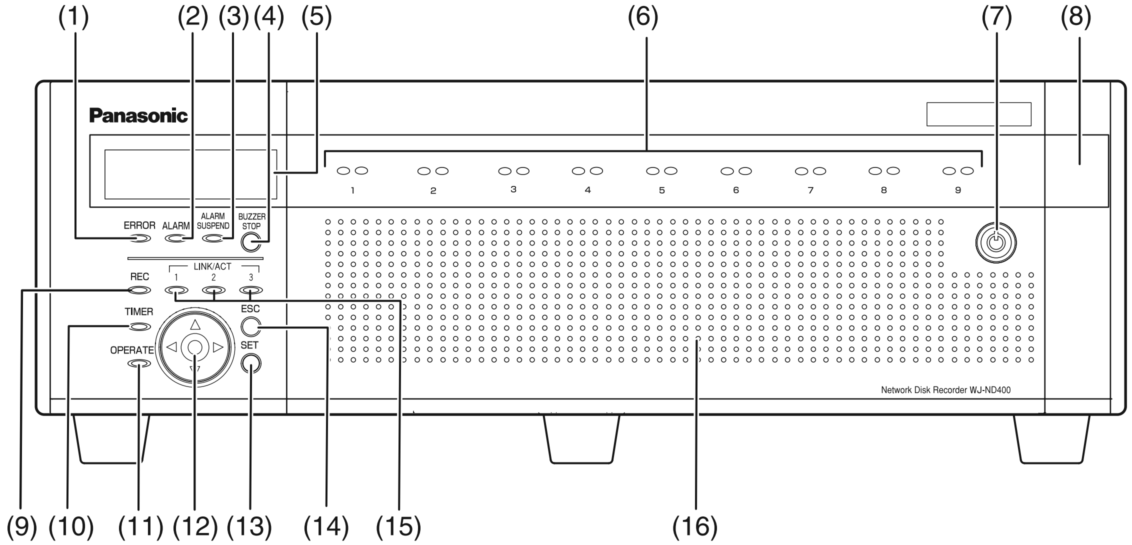
  This product is licensed under the MPEG-4 Visual patent portfolio license for the personal and non-commercial use of a consumer for (i) encoding video in compliance with the MPEG-4 Visual Standard ("MPEG-4 Video") and/or (ii) decoding MPEG-4 Video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed by MPEG LA to provide MPEG-4 Video. No license is granted or shall be implied for any other use. Additional information including that relating to promotional, internal and commercial uses and licensing may be obtained from MPEG LA, LLC. See http://www.mpegla.com.

- **GPL/LGPL**

  - This product includes software based on GNU General Public License (GPL) and a Lesser General Public License (LGPL).
  - Customers can duplicate, distribute, and modify the source code of the relevant software according to the GPL and LGPL.
  - For detailed information about the relevant software, refer to the "readme.txt" file in the "GPL/LGPL" folder on the CD-ROM included with the main unit.
  - Please note that Panasonic cannot respond to questions regarding the source code.

# Major Operating Controls and Their Functions

## Front View



### (1) Error indicator [ERROR]

Blinks when errors or problems with the recorder's operation occur.

Blinks red : System errors

Blinks orange : Temperature is too high or low. Cooling fan stopped, etc.

### (2) Alarm indicator [ALARM]

Blinks : Alarm has occurred

Lights : Alarm output stopped

Off : Alarm is resolved or no alarm has occurred

Refer to the Operating Instructions (PDF file) for more information about alarms.

### (3) Alarm suspension indicator [ALARM SUSPEND]

Lights : Alarm suspend stopped

Off : Alarm is not suspended

Refer to the Operating Instructions (PDF file) for more information about alarm suspension.

### (4) Buzzer stop button [BUZZER STOP]

Use to turn off the buzzer after an alarm or error occurs. Refer to the Operating Instructions (PDF file) for more information about alarms and errors.

### (5) LCD

Displays the recorder's status (errors etc.) and functions that are operated using the buttons on the front panel.

### (6) HDD indicators ("HDD1" to "HDD9")

### HDD access indicator (right side)

Indicates the access status and problems of the HDD.
When errors occur on an HDD in RAID5/RAID6 mode,
the indicator lights or blinks red.

Blinks green : Accessing HDD

Off : Not accessing HDD

Lights red : Errors have occurred on the internal HDD
(Data can be recovered by replacing HDD.)
- When in RAID5 mode, the first HDD has errors
- When using RAID6, the first two HDDs have errors.

Blinks red : Errors have occurred on the internal HDD
(Data cannot be recovered even if HDD is replaced)
- When in RAID5 mode, the second HDD has errors
- When in RAID6 mode, the third HDD has errors

Lights orange and red (Alternately) : Recovering data from drive in RAID5/RAID6 mode.
(This indicator looks orange during high-speed processing.)

The indicators display the status of the drives from HDD1 to HDD9, but if a system errors occur, each indicator has the same display.

**Important:**

- When the HDD indicators light red in the RAID5/RAID6 mode, quickly replace the HDD where the errors occurred. Contact your dealer for information on replacing HDDs.
  - RAID5 mode:
    Data cannot be recovered when two or more HDD indicators are lighting or blinking red.
  - RAID6 mode:
    Data cannot be recovered when three or more HDD indicators are lighting or blinking red.

### HDD status indicator (left side)

Shows the operating status of the HDDs.

| | |
|---|---|
| Lights green | : HDD power [On]<br>(HDD formatted) |
| Blinks green | : HDD for playback only<br>(only for playback, recording not possible) |
| Blinks orange | : Formatting HDD |
| Lights red | : HDD format failed |
| Off | : HDD power [Off]<br>HDD is not connected or not recognized |

### (7) Key hole

Use to open and close the front cover.
Keep the key in a safe place.

| | |
|---|---|
| Lock | : Turn key to left |
| Open | : Turn key to right |

### (8) Maintenance port

Use for service when connected directly to a PC. Normally, it is not used.

**Note:**

- Use a straight cable to connect a PC directly to the maintenance port.

### (9) Recording indicator [REC]

| | |
|---|---|
| Lights | : Recording |
| Off | : Recording finished. |

### (10) Timer indicator [TIMER]

| | |
|---|---|
| Lights | : When a schedule is set |
| Blinks | : Schedule recording in-progress |

### (11) Operate indicator [OPERATE]

| | |
|---|---|
| Lights | : Power [On] |
| Off | : Power [Off] |

### (12) Arrow buttons (up, down, left, or right)

Use to move the cursor on the LCD and for direct input of values.

### (13) Set button [SET]

Use to set items on the LCD.

### (14) Escape button [ESC]

Use to return to the previous screen when doing operations on the LCD.

### (15) Link indicators [LINK/ACT]

#### Camera Link indicator [LINK/ACT1]

Lights or blinks when linked with camera.

| | |
|---|---|
| Lights green | : When a camera port connection is established |
| Blinks green | : Receiving data |

#### PC Link indicator [LINK/ACT2]

Lights or blinks when connected to a PC (PC and camera when one port used).

| | |
|---|---|
| Lights green | : When a client PC port connection is established |
| Blinks green | : Receiving data |

#### Reserved Link indicator [LINK/ACT3]

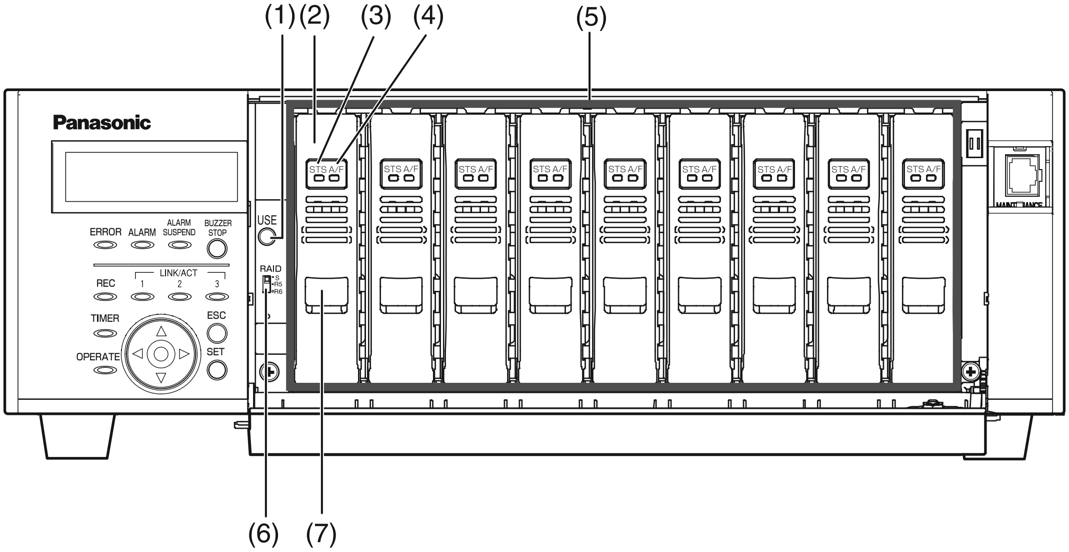
This indicator is for future extension (off).

### (16) Front cover

Open to add, or replace HDD units and to configure HDD operations (Single/RAID5/RAID6).

Keep it closed and locked during normal operations.

## Inside the Front Cover



### (1) USE button [USE]

Used when adding or replacing an HDD or changing the operating mode of the HDD.

| | |
|---|---|
| Installing or removing an HDD | : You can install or remove the HDD by holding down the button for at least 2 seconds, waiting for the buzzer to sound, and using the front panel buttons and LCD operations. |
| HDD operation mode<br>Change | : The settings become effective after setting the [RAID] switch and turning on the Power switch while holding down the [USE] button to boot up.<br>Remember to hold down the [USE] button until the buzzer sounds. |

### (2) HDD unit

HDD in special canister.

Add and replace HDDs by using the LCD on the front panel. Refer to page 45 for details. Contact your dealer for information on purchasing and replacing HDDs.

### (3) HDD status indicator [STS]

Shows the operating status of the HDDs.

| | |
|---|---|
| Lights green | : HDD power [On]<br>(Formatted) |
| Blinks green | : HDD for playback only<br>(only for playback, recording not possible) |
| Blinks orange | : Formatting HDD |
| Lights red | : HDD format failed |
| Off | : HDD power [Off]<br>HDD is not connected or not recognized. |

### (4) HDD access indicator [A/F]

Indicates the access status and problems with the HDD.

When errors occur on an HDD in RAID5/RAID6 mode, the indicator lights or blinks red.

| | |
|---|---|
| Blinks green | : Accessing HDD |
| Off | : Not accessing HDD |
| Lights red | : Errors have occurred on HDD<br>(Data can be recovered by replacing HDD)<br>• When in RAID5 mode, the first HDD has errors<br>• When using RAID6, the first two HDDs have errors. |
| Blinks red | : Errors have occurred on HDD<br>(Data cannot be recovered even if HDD is replaced)<br>• When in RAID5 mode, the second HDD has errors<br>• When in RAID6 mode, the third HDD has errors |
| Alternating colors<br>(Orange/red) | : Recovering data from drive in RAID5/RAID6 mode.<br>(This indicator looks orange during high-speed processing.) |

### (5) HDD bay slots

Up to 9 HDD can be installed (one HDD unit is installed at the factory).

---

**Note:**

- Limiting factors for the RAID5/RAID6 mode.

| | |
|---|---|
| RAID5 mode | : The RAID5 mode can be used when more than three HDDs are installed. |
| RAID6 mode | : The RAID6 mode can be used when more than four HDDs are installed. |

---

### (6) RAID mode switch [RAID]

Switches the HDD operational mode (Single, RAID5, or RAID6).
The settings become effective after setting the HDD operation mode with the [RAID] switch and turning on the power while holding down the [USE] button to boot up.

| | |
|---|---|
| S | : SINGLE mode (default) |
| R5 | : RAID5 mode |
| R6 | : RAID6 mode |

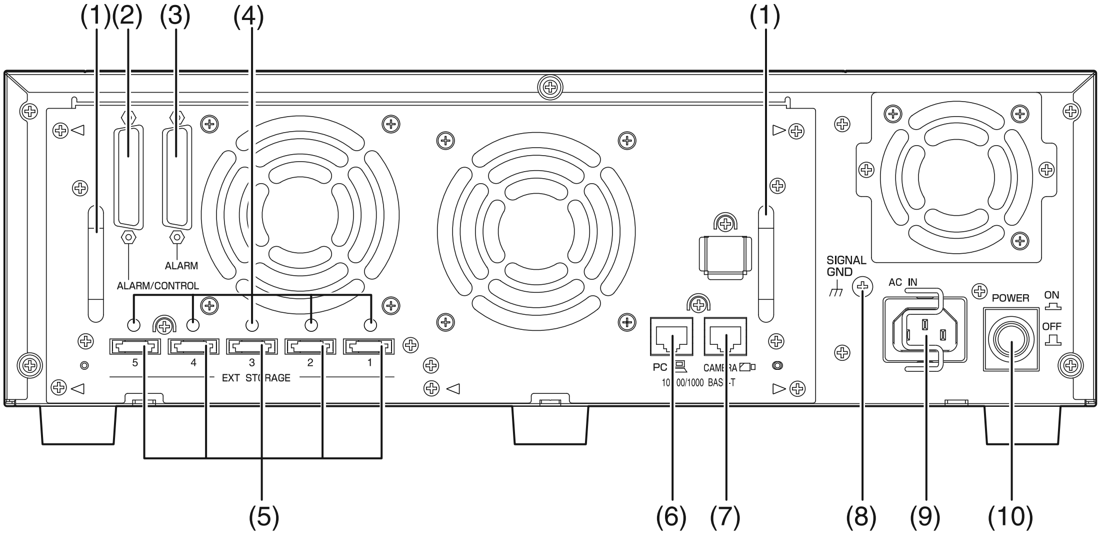
**Important:**

- The HDD operation mode cannot be changed once the system is operating. Recorded data may not be read correctly when the mode is changed after the system is operating.

### (7) Removal knob

Used when replacing the HDD units.

## Rear View



### (1) Handle for Maintenance

Loosen the 5 screws indicated by the triangles and grip these handles to pull off the panel when replacing the fan or doing other maintenance work.

### (2) Alarm/Control connector [ALARM/CONTROL], D-Sub 25 pin

Use to connect alarm devices (buzzers or indicators), external devices, control switches controlled by the recorder.

### (3) Alarm connector [ALARM], D-sub 25 pin

Use to connect alarm-related devices such as a sensor or a door switch.

### (4) Cable clamp fixing holes

Install the cable clamp (provided with the extension unit) to secure the connection cables.

For details refer to the manual for the extension unit (WJ-HDE400).

### (5) External storage connector [EXT STORAGE]

Use to connect the (WJ-HDE400) extension unit and the recorder with the connection cable (provided with the extension unit).

### (6) Client PC port [PC]

Use to connect a PC, 10BASE-T, 100BASE-TX, or 1000BASE-T network.

### (7) Camera port [CAMERA]

Use to connect a camera, 10BASE-T, 100BASE-TX, or 1000BASE-T network.

### (8) Signal GND terminal [SIGNAL GND]

Use as a ground when the recorder's Signal GND terminal is connected to another device's Signal GND terminal. Static or other noise related problems may occur if a ground is not connected.

### (9) Power cord Inlet [AC IN]

Connect the provided power cord here. The power plug is a two prong plug with a ground terminal.

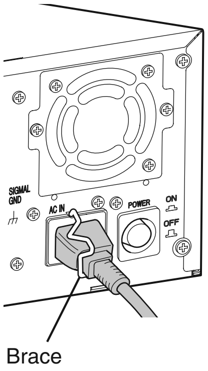
### (10) Power switch [POWER]

Turns the power on. Press it again to turn the power off and end operations.

## Using the Brace

Secure the power cord with the brace.

1 **Lock the power cord in place by lifting and latching the brace.**

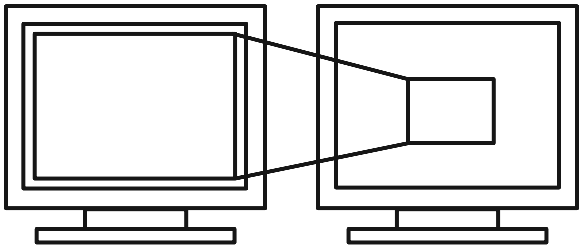


## HDD

### Mega Pixel Camera Compatibility and Capacity

The recorder can record high-definition images (mega pixel camera images) in SXGA (1280 x 960) JPEG four times that of the existing VGA (640 x 480). This makes it possible to record a wide angle of view and to zoom in without fuzziness to check things.

Display on 21 in PC monitor



You can install up to 9 HDDs to record high-quality images for long periods of time. Plus, you can add up to 5 extension units.

### Replace HDDs

#### Replacement is Easy

You can install and remove HDDs by opening the front panel.

If more than two HDDs are installed, replacement can be done without stopping recording. Instructions are shown on the LCD to reduce misoperations, and make maintaining and replacing HDDs easy.

Use the special HDD canister provided to install the HDD.

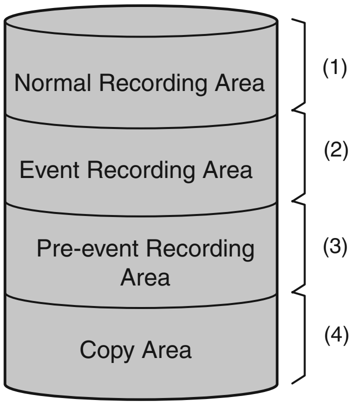
The HDD unit is an HDD that is in the special canister. The HDD units can be easily installed or removed from the HDD bay slots inside the front cover.

* Contact your dealer for information on purchasing and replacing HDDs.

### HDD Space Management

The HDDs in the recorder are virtually divided in the 4 image areas shown below (refer to the Setup Instructions (PDF file)).

You can set only one area for each HDD.



You can check the remaining capacity for each area on the Setup menu.

#### (1) Normal Recording Area

Area for recording except events.

Manual recording/schedule recording/SD memory data

#### (2) Event Recording Area

Area for recording when events occur.

Post-event recording/emergency recording

#### (3) Pre-event Recording Area

Area for pre-event recording.

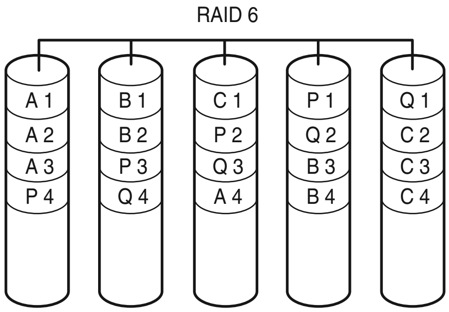
#### (4) Copy area

Area where copied data is saved.

**Note:**

- The HDD provided in the recorder at the factory is initialized as normal recording area. Unformatted HDDs inserted into the recorder are automatically initialized as normal recording area.
- Recording/playback is not possible if only the Pre-event Recording Area and the Copy Area are created. Create either one normal recording area or event recording area.
- If a normal recording area is not created, manual and schedule recordings are recorded to the event recording area. Also, if an event recording area is not created, event and emergency recordings are recorded to the normal recording area.

## HDD Fault Tolerance System



The RAID function makes it possible to improve the HDD's tolerance to errors.

This product is equipped with the RAID6 mode that can recover image data when two HDDs fail, in addition to the RAID5 mode that can recover image data (RAID6 has two sets of error correcting code data). This prevents loss of recorded image data on large volume HDDs (refer to the Setup Instructions (PDF file).

**Note:**

- To use the RAID5 mode you need to connect 3 or more HDDs, the RAID6 mode requires 4 or more HDDs.
- Theoretical volume when RAID5 mode enabled
  Theoretical volume = HDD with smallest capacity in the unit x (number of HDDs in the unit –1)
- Theoretical volume when RAID6 mode enabled
  Theoretical volume = HDD with smallest capacity in the unit x (number of HDDs in the unit –2)
- The capacity of the HDDs that are installed may be a few percents smaller.

## Encrypting Data Recorded on the HDDs

The image and audio data recorded on the HDDs is encrypted. The image and audio data on the HDDs cannot be played except on the recorder.

The recorder uses RSA® BSAFE™ software from RSA Security Inc.

# Recording and Playing Images

## Stable recording and playback of images

High through put is achieved by separating the camera port and the client PC port. In addition to acquiring extremely stable images, you can connect a maximum of 64 cameras and 16 client PCs, depending on your network.

### Recording

Camera images from network cameras are recorded on the recorder. One Network Disk Recorder can record images from a maximum of 64 cameras. JPEG, M-JPEG, and MPEG-4 images are supported.

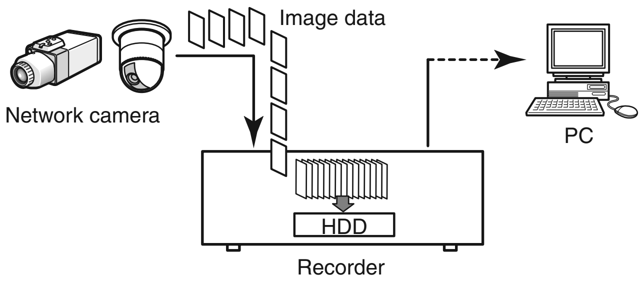


Image data
Network camera
PC
HDD
Recorder

### Playback

Images recorded on the HDD of the recorder are sent to and displayed on a PC. One Network Disk Recorder can send images to a maximum of 16 PCs.

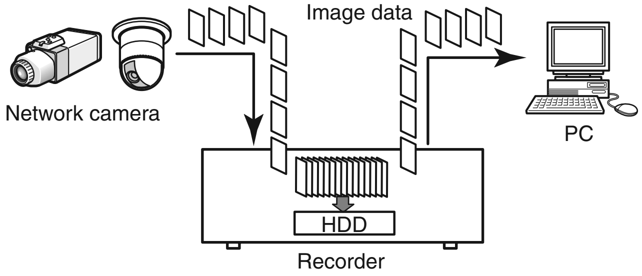


Image data
Network camera
PC
HDD
Recorder

### Accessing Live Images

Images from network cameras can be sent live to PCs via the recorder. Images from a maximum of 64 network cameras can be sent simultaneously to a maximum of 16 PCs.

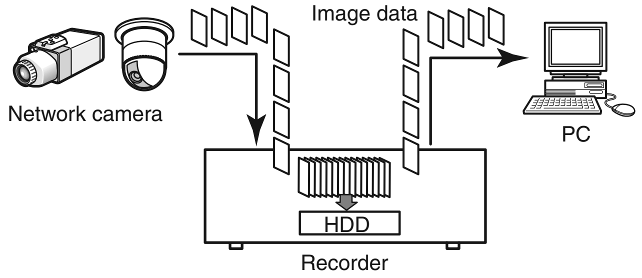


Image data
Network camera
PC
HDD
Recorder

## Setting Schedules

Schedules can be made so each day can be divided into six time zones, each of which can be programmed separately. Up to 8 different programs can be created. It is possible to set the recording rate, event recording time, and other items for each program.

## Event Functions

### About Events

Events are things that trigger special operations by the recorder.

The event function includes terminal alarms, site alarms, and command alarms.

For example, if a camera sends a site alarm, the recorder receives the alarm and an event occurs.

### About event operations

Event operations are the operations done when an event occurs.

Event operations include, depending on the settings, recording images, recording logs, sending external notification (mail notification, LED, buzzers, FTP transmission and others). Here, operations that send external notifications are called alarms.

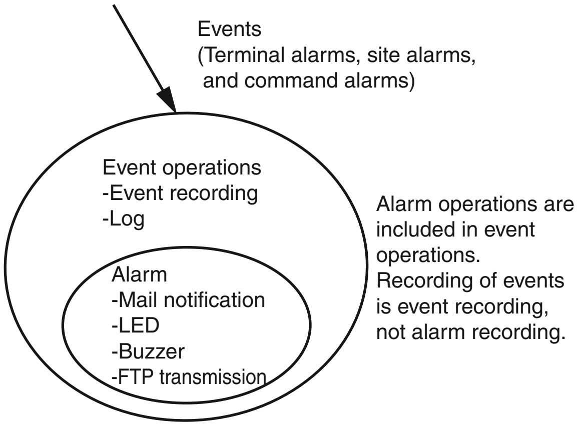

Events
(Terminal alarms, site alarms,
and command alarms)
Event operations
-Event recording
-Log
Alarm
-Mail notification
-LED
-Buzzer
-FTP transmission
Alarm operations are included in event operations.
Recording of events is event recording, not alarm recording.

Image of event/alarm operations

The recorder starts an event according to the settings when the following events occur.

- Terminal Alarm : Signals from door sensors or other external devices are transmitted through the alarm input connector on the rear panel of the recorder.
- Command Alarm : Receives command alarms from PCs via a network.
- Site Alarm : Receives the Panasonic alarm protocol from network cameras.

### Event operations include the following.

- Start recording images

  Recording is done according to the recording duration and rate settings on the settings menu. The images from a camera before an event occurs can be recorded and linked to the event (pre-record event).
- Display alarm messages

  A pop-up screen appears to indicate an event has occurred.
- Alarm indicator blinks

  Alarm indicator on the front of the recorder blinks.
- Buzzer sounds

  The buzzer sounds according to the settings on the settings menu.
- The camera goes to its preset position.

  The camera moves to a pre-registered preset position.
- Notification email sent when event occurs

  Alarm mail (notification of the time and date of an event) is sent to registered email addresses when an event occurs. An image can be attached to this email. Up to 4 addresses can be registered to receive the alarm mail.
- Alarm signal output from the Alarm/Control connector on the rear panel of the recorder (Alarm output)

  When an event occurs, a signal is output from the Alarm connector on the rear panel of the recorder to sound an alarm etc.
- Event log is recorded.

  When an event occurs, the type of event and the time it occurred are recorded in an event log.
- Images recorded during events are transmitted to an FTP server.

  When an event occurs, images are recorded from when the event starts for a set period of time and are automatically transmitted to an FTP server.
- A PC is notified of an alarm according to Panasonic alarm protocol settings.

  When an event or error occurs, a PC is automatically notified regarding event or error information according to the [Panasonic alarm protocol] settings. Install the software (option) on the PC designated to receive and display event or error notification.

  Refer to the "readme.txt" file on the CD-ROM for details about the software.

## List of Functions

### Live Monitoring

| Function | Description |
|---|---|
| 1-screen | Live images from cameras (including audio) are displayed on one screen.<br>The camera can be operated from the recorder when one screen is displayed (refer to the Operating Instructions (PDF file)). |
| 4-screen | Live images from a camera are displayed on multi-screen. |
| Sequential display | Images from multiple cameras are shown in preset sequence on the screen. |

### Recording

| Function | Order of priority* | Description |
|---|---|---|
| Emergency recording | 1 | Recording is done when an emergency occurs. |
| Event post recording | 2 | Recording is automatically done after various events occur. |
| Manual recording | 3 | Recording of images and audio can be started and stopped manually. |
| Schedule recording | 4 | Recording is done automatically during a set time period. |
| Pre-event recording | 5 | Recording is automatically done before various events occur. |

* Order of priority: Images are recorded in the highest priority mode if more than one mode is enabled.

## Setup Menu List

Refer to the Setup Instructions (PDF file) for information about the settings menu list.

# Network

## Remote Operation

The recorder and cameras connected to it can be operated from a PC on the network.

### Enabled functions

When monitoring images from a camera with pan and tilt function.

| Function | Description |
|---|---|
| Pan & tilt | Adjust the cameras horizontal and vertical position. |
| Zoom | Zoom in/out the image. |
| Focus | Adjust the focus point of the image. |
| Brightness | Adjust the lens iris. (brightness) |
| Preset operations | Registers the preset position of camera and moves the camera to the registered preset positions. |
| Auto | Select the camera's automatic mode function. |

## Network Security Function

The recorder has two network security functions.

### Limit access with user authentication/host authentication

Turn on the user and host authentication to limit users that can access the recorder.

### Limit access by changing HTTP ports

Illegal access from port scanning is prevented by changing the HTTP port number.

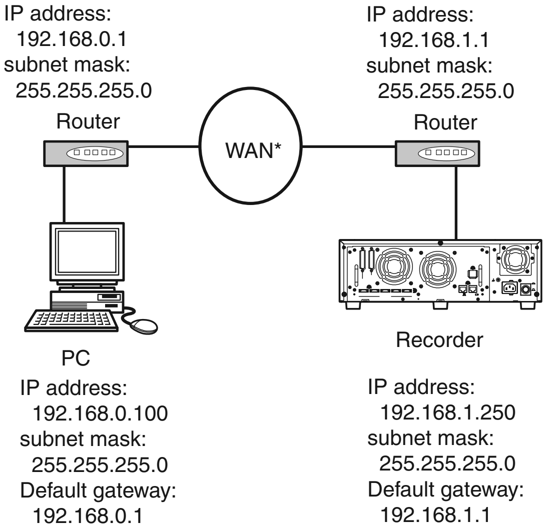
- To improve security even more

  To improve network security, use a router to divide the subnet, make two layers of IP address authentication with the recorder and router. If the recorder is connected to a network that is not secure, you can improve security by inserting a VPN between the recorder and the host PC.

**Important:**

- Network security settings vary depending on the LAN the recorder is connected to and the service provider and other various settings. Contact the network administrator to discuss network security.

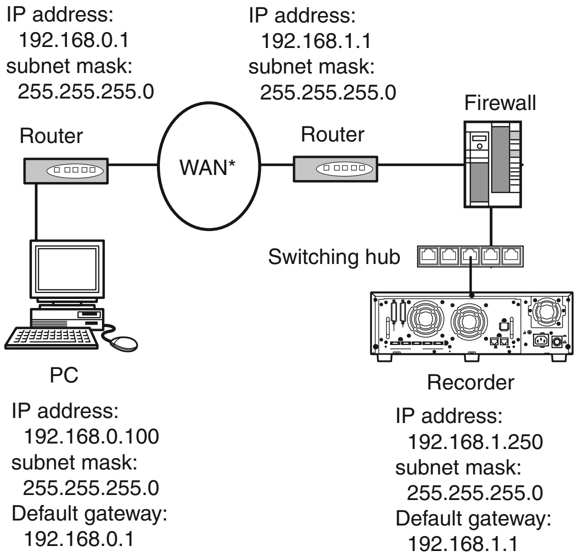
### Connection Examples


IP address:
192.168.0.1
subnet mask:
255.255.255.0
Router
WAN*
IP address:
192.168.1.1
subnet mask:
255.255.255.0
Router
PC
IP address:
192.168.0.100
subnet mask:
255.255.255.0
Default gateway:
192.168.0.1
Recorder
IP address:
192.168.1.250
subnet mask:
255.255.255.0
Default gateway:
192.168.1.1

*Wide Area Network

You can improve network security by using a firewall for packet and protocol filtering.

### Connection Examples


IP address:
192.168.0.1
subnet mask:
255.255.255.0
IP address:
192.168.1.1
subnet mask:
255.255.255.0
Firewall
Router
WAN*
Router
Switching hub
PC
IP address:
192.168.0.100
subnet mask:
255.255.255.0
Default gateway:
192.168.0.1
Recorder
IP address:
192.168.1.250
subnet mask:
255.255.255.0
Default gateway:
192.168.1.1

*Wide Area Network

## SD Memory Recording

If the connection with the camera is broken within the time set in the program in the recorder, images are recorded on the SD memory card in the camera.

### Recording Rate Setting

SD memory recording can only be set when the camera supports it and the compression format is set to M-JPEG.

The recording rate for SD memory recording can be set for each camera channel. The time SD memory recording starts depends on the recording rate setting (refer to the Setup Instructions (PDF file)).

### Acquiring images stored on the SD memory card

The images are acquired from the SD memory card and recorded on the HDD.

You can confirm if data is being acquired from the SD memory in the "Status display".

SD memory data acquisition is done once an hour at 15 minutes past the hour.

## Maintenance (Version Upgrade)

You can upgrade the recorder's software with your browser.

Contact your dealer for information about upgrading the software.

## Setup Procedure

The procedure to start operations is shown below.

| | | |
|---|---|---|
| 1 | **Rack Mounting** | Mount the recorder into the rack (page 23).<br>Go to step 2 if you are not using a rack. |
| 2 | **Connections** | Connect the recorder to the various devices (page 25). |
| 3 | **Power On** | Turn on the recorder (page 39).<br>When using extension units, turn on all extension units before turning on the recorder. |
| 4 | **Installing HDDs** | Install the HDDs in the recorder (page 46).<br>Unformatted HDDs inserted into the recorder are automatically initialized.<br>Also, set the HDD operation mode as necessary (page 51). |
| 5 | **Recorder Network Settings** | Use the buttons on the recorder's front panel to do the network settings (refer to the Setup Instructions (PDF file)). |
| 6 | **PC Network Settings** | Change the PC's network settings to match the recorder's settings (refer to the Setup Instructions (PDF file)). |
| 7 | **Initialize HDDs** | To change HDD space management, display disk configuration and initialize the HDD from the settings menu on the recorder as needed (refer to the Setup Instructions (PDF file)). |
| 8 | **Camera Network Settings** | Open the PC settings menu from the PC and do the network settings (refer to the Setup Instructions (PDF file)). |
| 9 | **Setup** | Set up the functions that you need (refer to the Setup Instructions (PDF file)). |
| 10 | **Start Operations** | |
| | When necessary | |
| | **Replace HDDs** | You can change or format HDDs while the recorder is [On] (page 46 to page 53). |

# Setting up the Rack

## Rack Mounting

Install the recorder into an EIA standard compliant rack.

| | |
|---|---|
| EIA standard compliant: product<br>(locally procured) | an EIA-standard 19"rack, depth 550 mm or more |

---

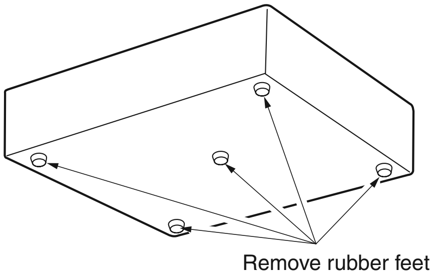
**Note:**

- Installation in a rack requires four M5 x 12 screws.

---

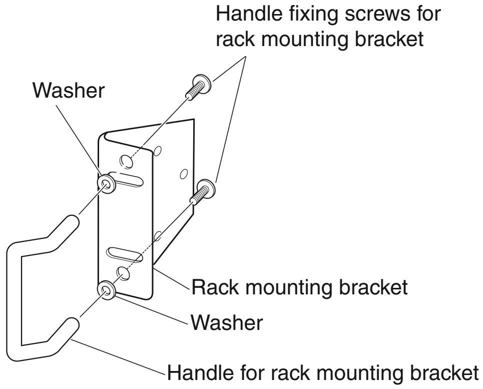
**1** **Remove the 5 rubber feet from the underside of the recorder.**

Use a screwdriver to remove the screws holding the rubber feet.


Remove rubber feet

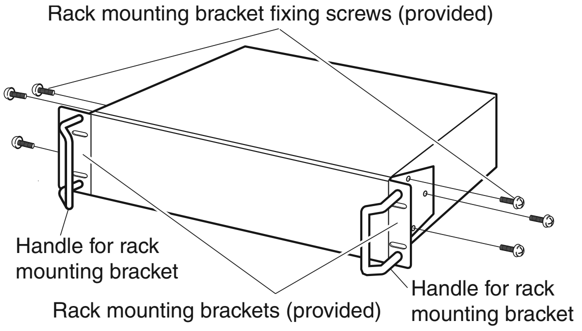
**2** **Attach the handle for rack mounting bracket to the rack mounting brackets.**

Use the four handle fixing screws for rack mounting bracket and washers to secure them.


Handle fixing screws for rack mounting bracket
Washer
Rack mounting bracket
Washer
Handle for rack mounting bracket

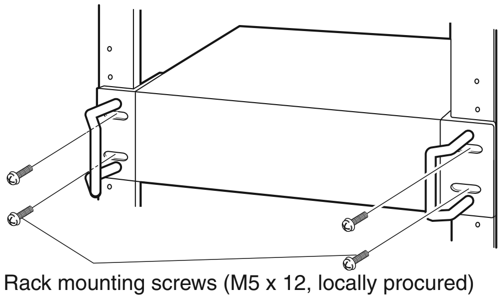
**3** **Attach the rack mounting bracket to both sides of the recorder.**

Secure them using the six rack mounting bracket fixing screws.


Rack mounting bracket fixing screws (provided)
Handle for rack mounting bracket
Rack mounting brackets (provided)
Handle for rack mounting bracket

**4** **Install the recorder in the rack.**

Secure using the rack mounting screws.

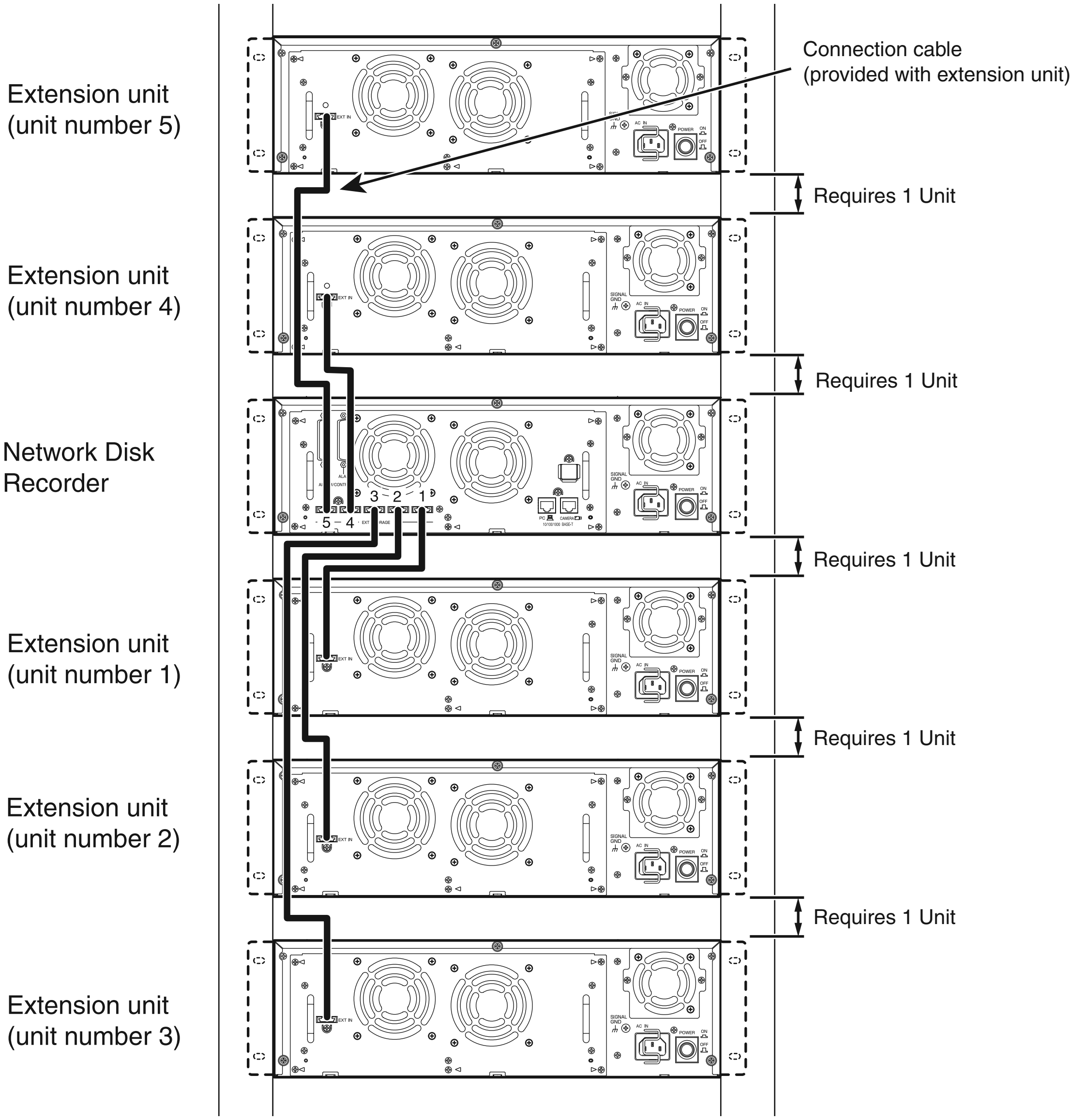

Rack mounting screws (M5 x 12, locally procured)

**Important:**

- Ensure that the temperature inside the rack does not exceed 45 °C {113 °F}.
- During installation, we recommend installing a fan to keep the temperature in the rack below 30 °C {86 °F}.
- When installing the recorder in the rack, leave a space of 1 unit (44 mm {1.73"}) above and below each unit.
- Leave space between racks and ensure proper ventilation around the racks.

## Rack mounting positions

When connecting multiple extension units (WJ-HDE400) to the recorder, place the recorder in the center of the rack.
Connect the recorder and the extension unit with the connection cable (1 m {39.4 "}) included with the extension unit (page 31).


Extension unit (unit number 5)
Connection cable (provided with extension unit)
Requires 1 Unit
Extension unit (unit number 4)
Requires 1 Unit
Network Disk Recorder
3
2
1
5
4
Requires 1 Unit
Extension unit (unit number 1)
Requires 1 Unit
Extension unit (unit number 2)
Requires 1 Unit
Extension unit (unit number 3)
EXT IN
SIGNAL GND
AC IN
POWER
ON
OFF

**Note:**

- Install the recorder in the center of the rack, if using a rack. If you install the recorder at the top or bottom of the rack, the cable may not be long enough.
- When installing the recorder in the rack, leave a space of 1 unit (44 mm {1.73 "}) above and below each unit.
- Secure the connection cables to the extension unit using the cable clamp provided.
  If the connection is poor, the system may become unstable and unable to record images.
- Keep the cables as short as possible. Looped cables or large distances between pieces of equipment may cause malfunctions. Do not wind the cable in a coil.
- Refer to the Setup Instructions (PDF file) to check the unit numbers of connected extension units.

# Connections

This sections explains how to connect the PC, cameras, and extension units. The types of cables and other hardware depend on how each setup is done. Before starting installation work, check to make sure you have everything you need.

## Connecting the PC and the Camera

Connect the PC and the camera to the recorder using a HUB. The recorder is connected to the HUB via a LAN cable (straight). You can connect the PC and camera using either 1 port or 2 port operation.

**Important:**

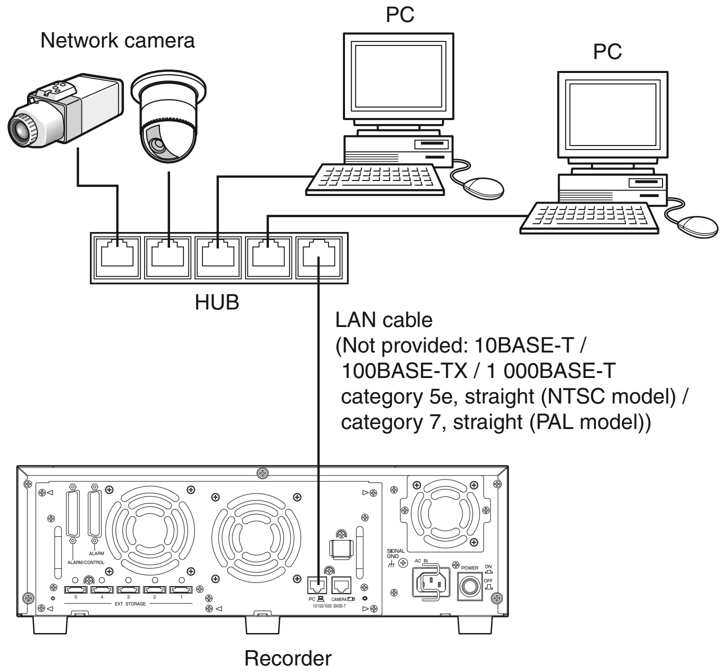
- Use a LAN straight cable to connect the recorder and PCs via a hub.
- Do not use a LAN cross cable to connect the recorder and PCs. Using a LAN cross cable for continuous operation may result in incorrect display and playback because depending on the type of PC transmission may not be steady.

| Connectivity | Advantages | Ports Used |
|---|---|---|
| 1-port Operation | Used when the PC and camera are on the same network and they directly access each other without passing through the recorder. | Client PC port |
| 2-port Operation | Used when the PC and camera are on different networks and the PC cannot access the camera directly. | Camera port<br>Client PC port |

### 1 Port Operation

### Using a HUB for Direct Connection

The PC connects to the camera using the Client PC port on the rear of the recorder.



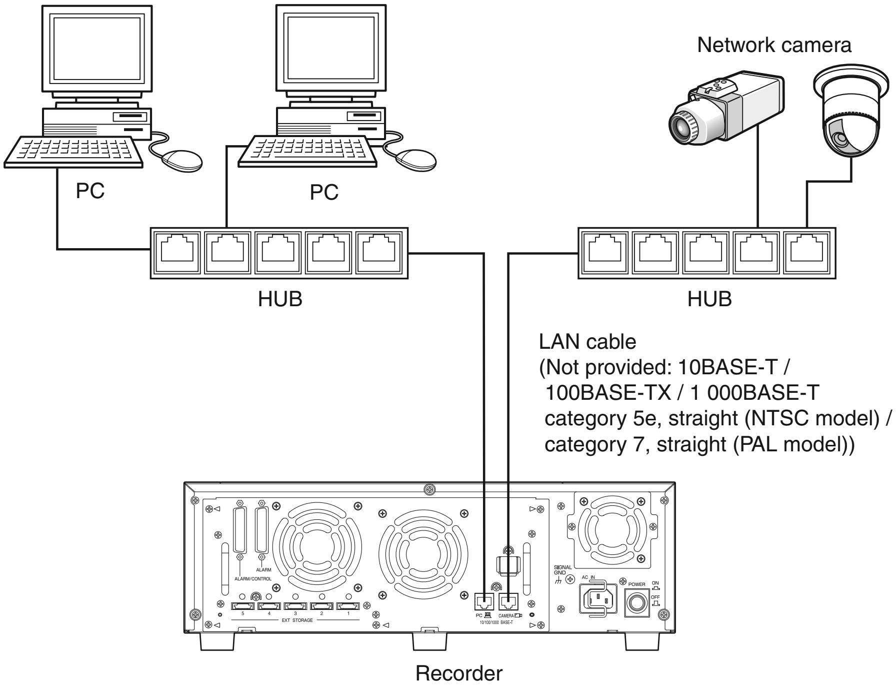
LAN cable
(Not provided: 10BASE-T / 100BASE-TX / 1 000BASE-T category 5e, straight (NTSC model) / category 7, straight (PAL model))

Camera images input through the client PC port are sent to the PC from the same client PC port.

## 2 Port Operation

### Using a HUB for Direct Connection

The PC connects to the camera using the camera port and the client PC port on the rear of the recorder.


Network camera
PC
PC
HUB
HUB
LAN cable
(Not provided: 10BASE-T /
100BASE-TX / 1 000BASE-T
category 5e, straight (NTSC model) /
category 7, straight (PAL model))
ALARM
ALARM/CONTROL
EXT STORAGE
SIGNAL GND
AC IN
POWER
ON
OFF
PC
CAMERA
10/100/1000 BASE-T
Recorder

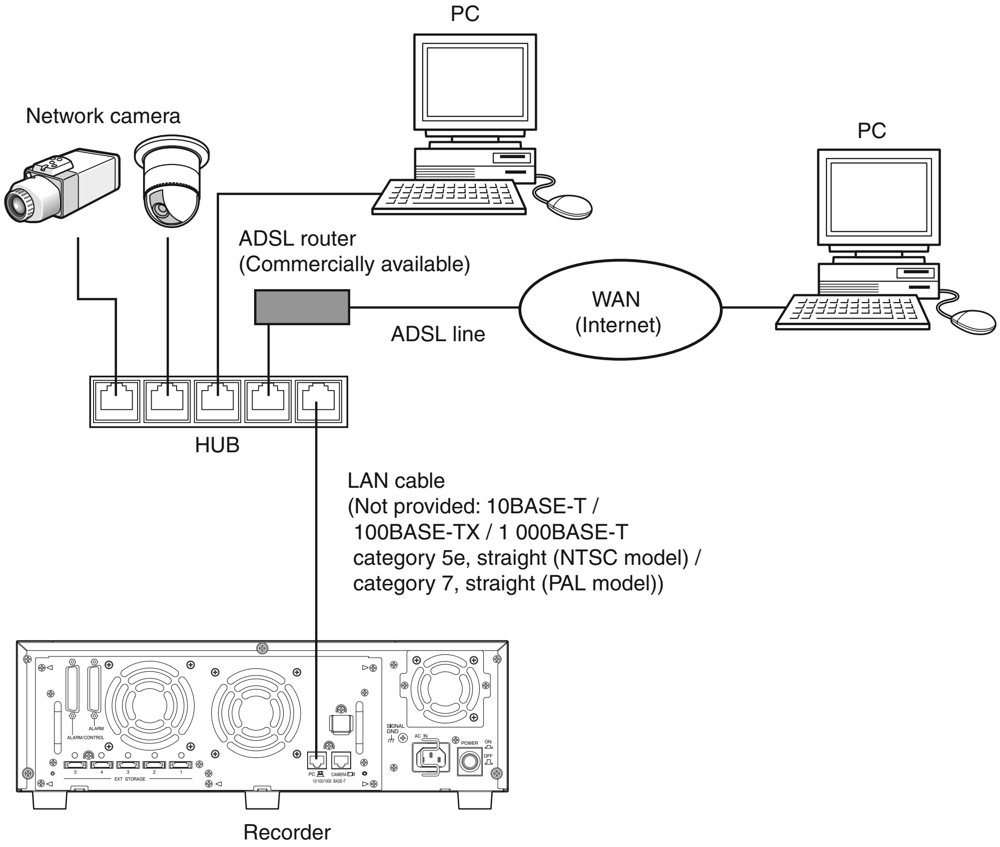
Camera images input through the camera port are sent to the PC from the client PC port.

**Important:**

- Connect the camera to the camera port and the PC to the client PC port.
  Connect the devices correctly. Otherwise, the transmission rate may be lowered.

## Example of Connectivity with 1 Port Operation

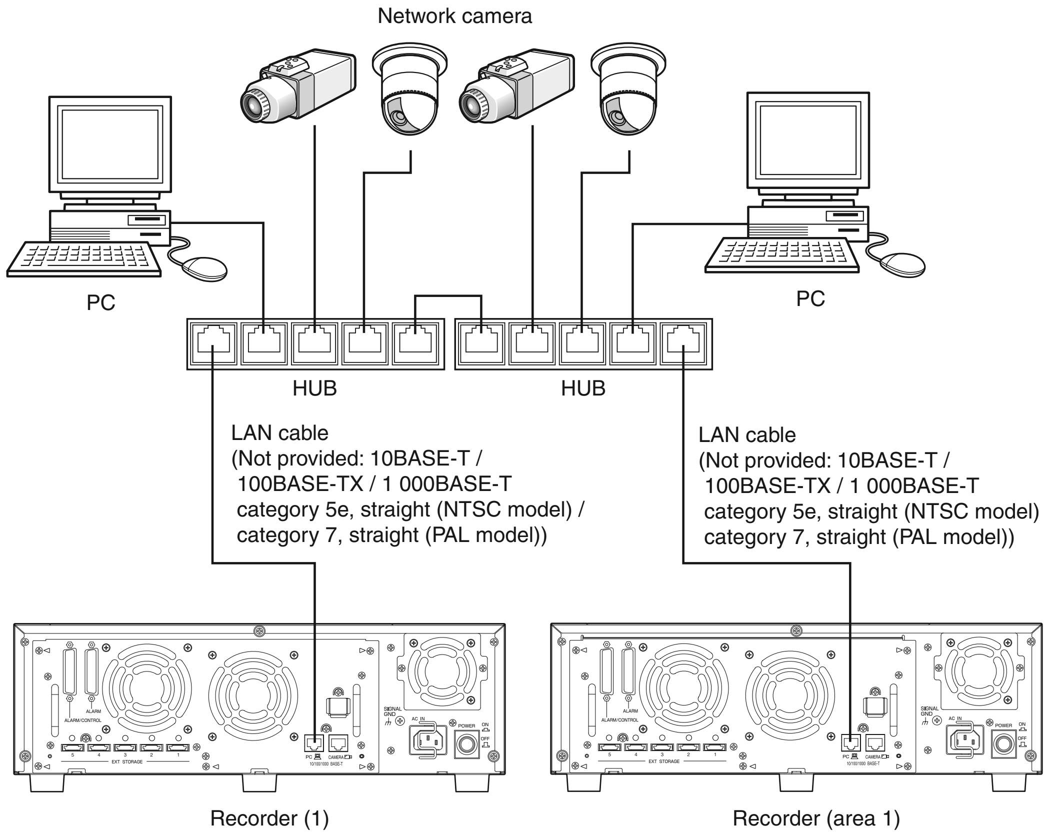
### Connecting to a PC over ADSL


PC
Network camera
PC
ADSL router
(Commercially available)
WAN
(Internet)
ADSL line
HUB
LAN cable
(Not provided: 10BASE-T /
100BASE-TX / 1 000BASE-T
category 5e, straight (NTSC model) /
category 7, straight (PAL model))
Recorder

**Note:**

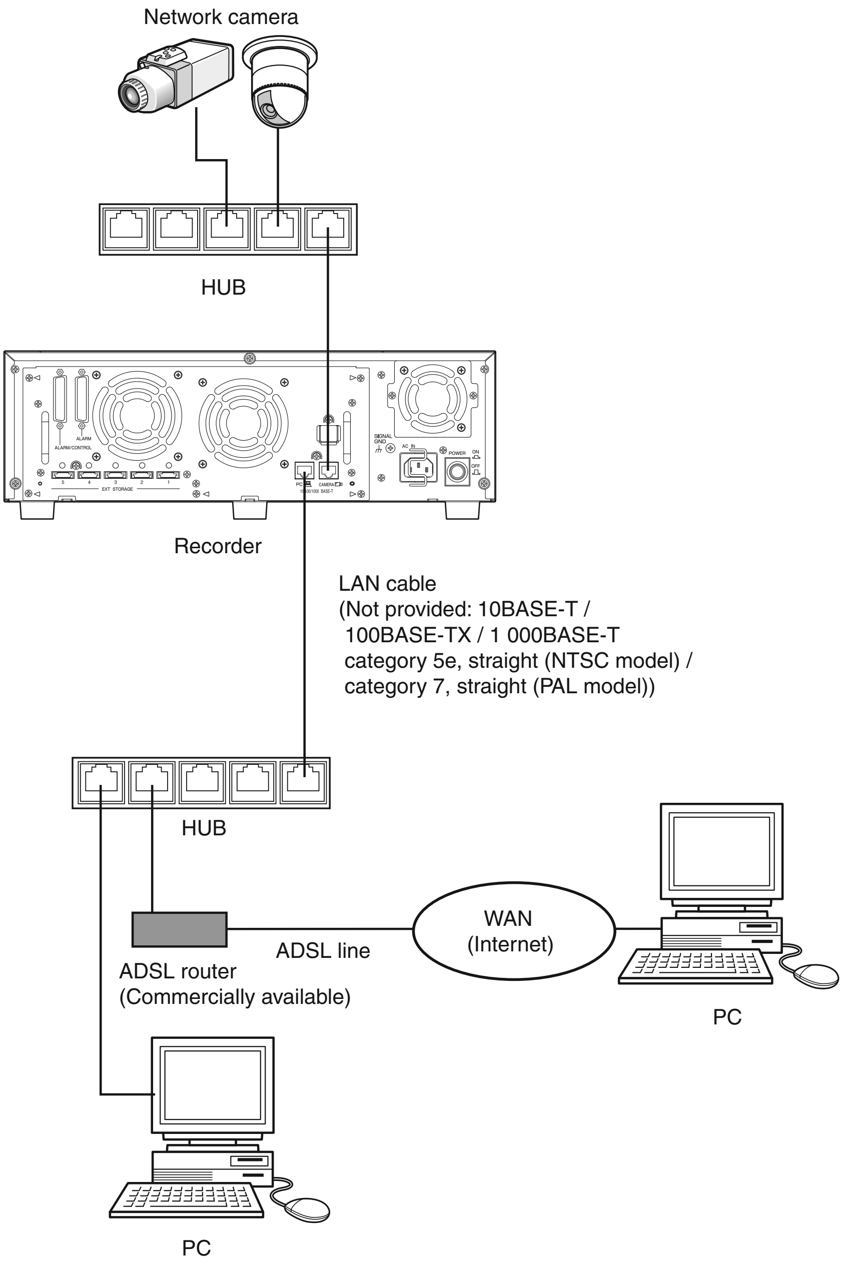
- MPEG-4 video may not be displayed when using a router. Consult your network administrator about router settings.

## Connecting multiple units to the recorder

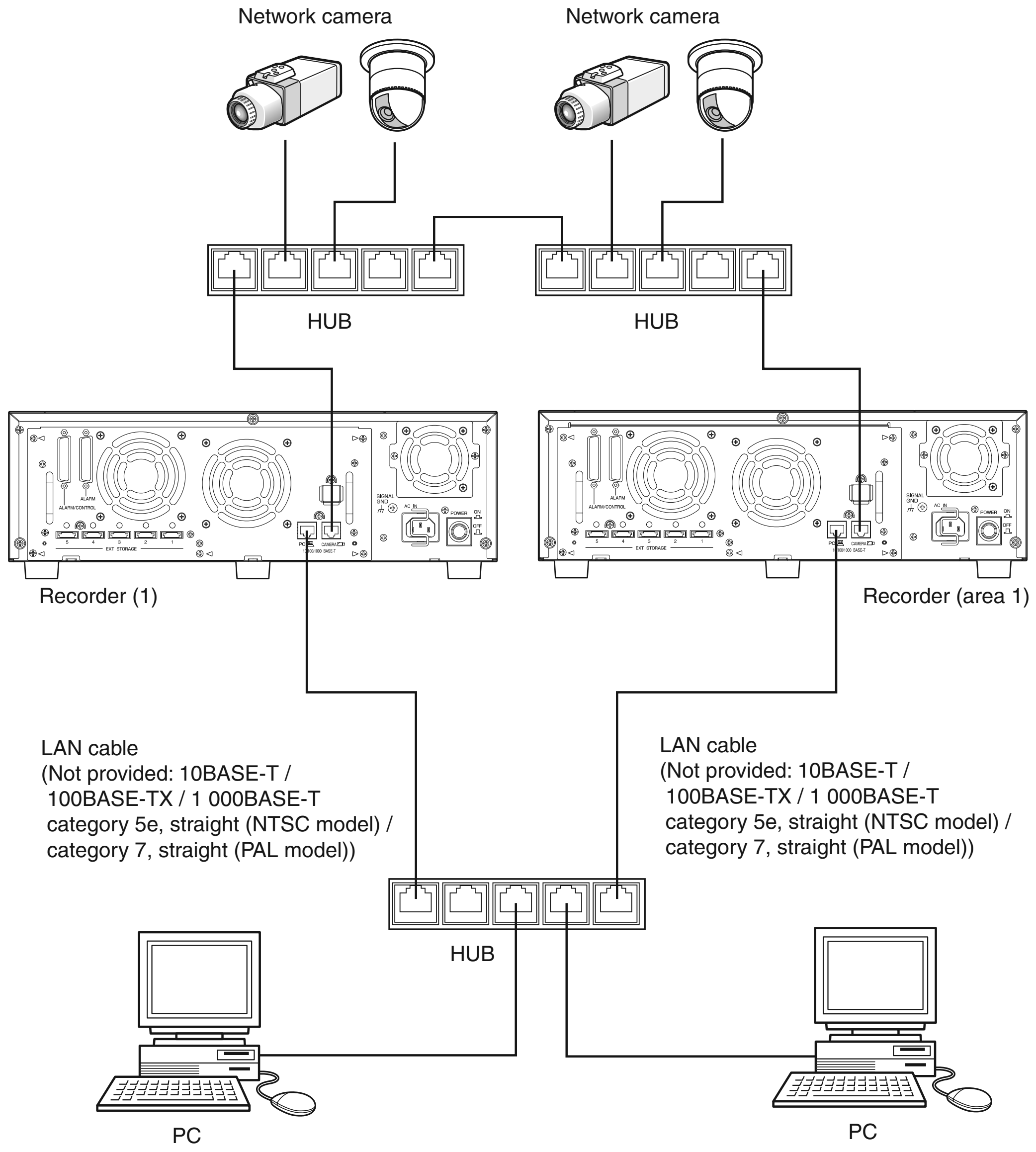

Network camera
PC
PC
HUB
HUB
LAN cable
(Not provided: 10BASE-T /
100BASE-TX / 1 000BASE-T
category 5e, straight (NTSC model) /
category 7, straight (PAL model))
LAN cable
(Not provided: 10BASE-T /
100BASE-TX / 1 000BASE-T
category 5e, straight (NTSC model)
category 7, straight (PAL model))
Recorder (1)
Recorder (area 1)

## Example of Connectivity with 2 Port Operation

### Connecting to a PC over ADSL


Network camera
HUB
Recorder
LAN cable
(Not provided: 10BASE-T /
100BASE-TX / 1 000BASE-T
category 5e, straight (NTSC model) /
category 7, straight (PAL model))
HUB
WAN
(Internet)
ADSL line
ADSL router
(Commercially available)
PC
PC

## Connecting multiple units to the recorder


Network camera
Network camera
HUB
HUB
Recorder (1)
Recorder (area 1)
HUB
PC
PC

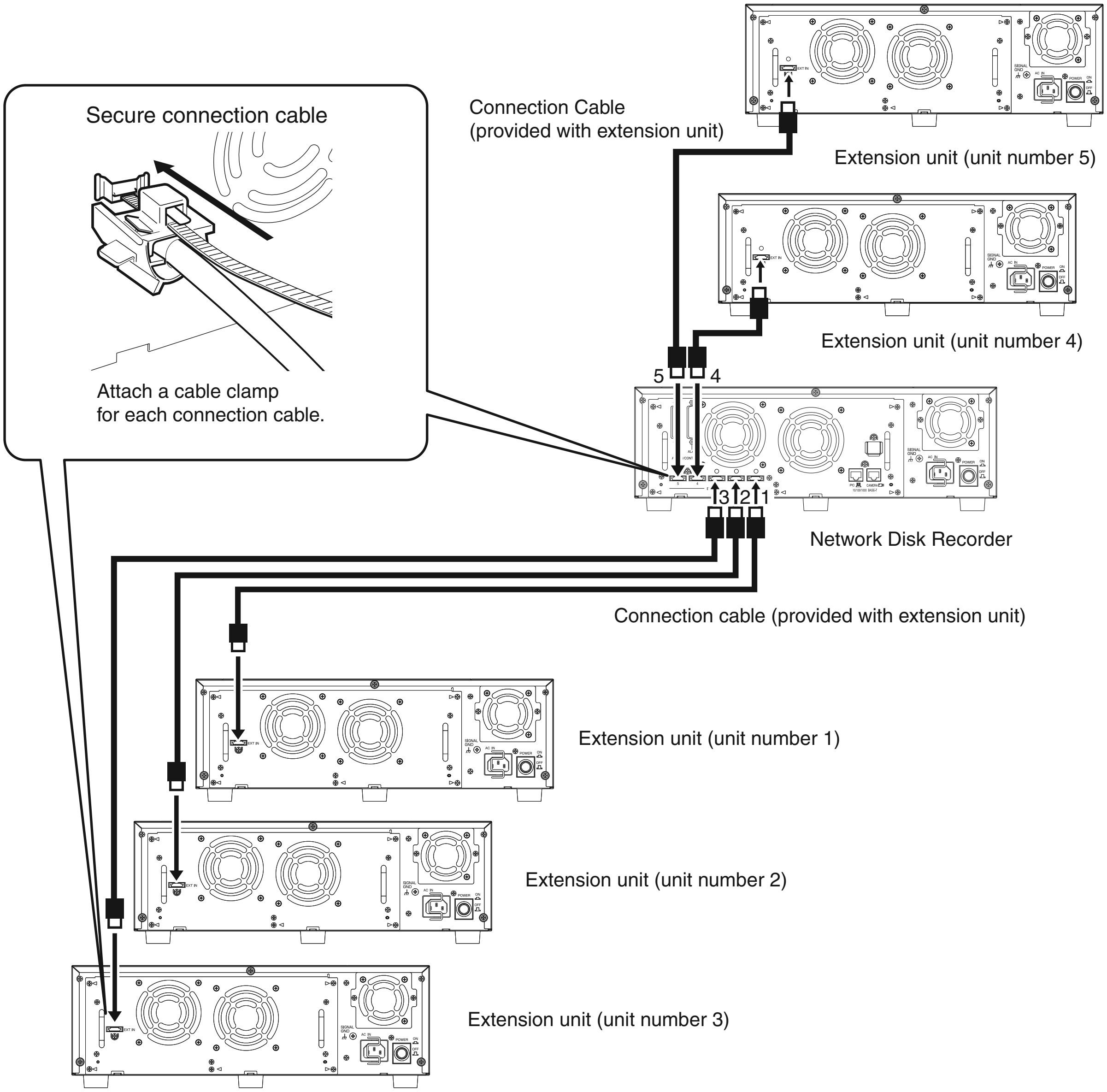
LAN cable
(Not provided: 10BASE-T /
 100BASE-TX / 1 000BASE-T
 category 5e, straight (NTSC model) /
 category 7, straight (PAL model))

LAN cable
(Not provided: 10BASE-T /
 100BASE-TX / 1 000BASE-T
 category 5e, straight (NTSC model) /
 category 7, straight (PAL model))

## Connecting the Extension Unit

You can connect a maximum of 5 extension units to a single recorder. Connect the recorder and the extension unit with the connection cable included with the extension unit.

Connect as follows when connecting multiple extension units (WJ-HDE400) or adding a new connection. Also, be sure to read the user manual for the extension unit.


Secure connection cable
Attach a cable clamp
for each connection cable.
Connection Cable
(provided with extension unit)
Extension unit (unit number 5)
Extension unit (unit number 4)
5
4
3
2
1
Network Disk Recorder
Connection cable (provided with extension unit)
Extension unit (unit number 1)
Extension unit (unit number 2)
Extension unit (unit number 3)
EXT IN
SIGNAL GND
AC IN
POWER
ON
OFF

**Important:**
- Connecting extension units requires the included connection cable.
- Secure the connection cables to the extension unit using the cable clamp provided. If the connection is poor or the connector is not secure, the system may become unstable and unable to record images.
- Do not wind the cable in a coil.

# About Connectors

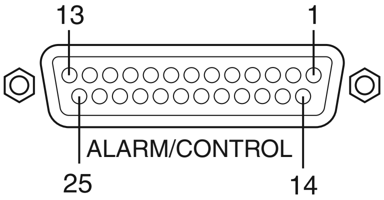
## Using the Alarm/Control connector

You can use emergency recording and auto adjustment time functions when alarm equipment like a buzzer or indicator which is mounted externally.

Create the connector by referring to the pin assignments.

### Pin Assignments

The pin assignments are different for other Network Disk Recorders. Connect using the following chart.



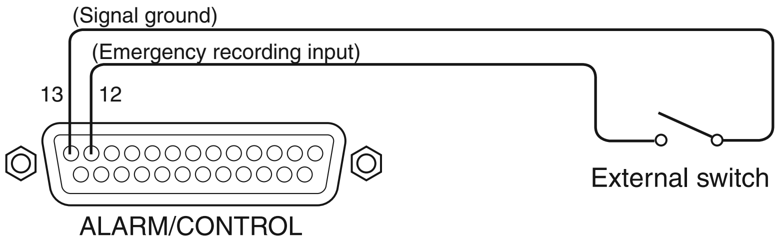
| Pin Number | Name | Description of Operation | Remarks |
|---|---|---|---|
| 1 | Alarm input 8 | Event action will be performed according to the settings. | Non-voltage make contact input 5V pull-up 150 kΩ |
| 2 | Alarm input 9 | | |
| 3 | Alarm input 10 | | |
| 4 | Alarm input 11 | | |
| 5 | Alarm input 12 | | |
| 6 | Alarm input 13 | | |
| 7 | Alarm input 14 | | |
| 8 | Alarm input 15 | | |
| 9 | Alarm input 16 | | |
| 10 | Network error output | Signal output upon detection of a broken Ethernet link.<br>Signal output upon DHCP IP address expiration. | Open collector output 24 V DC max., 100 mA |
| 11 | Alarm reset input | Canceling the alarm display | Non-voltage make contact input 5V pull-up 150 kΩ |
| 12 | Emergency recording input | Starting emergency recording signal input | |
| 13 | Signal ground | | |
| 14 | Signal ground | | |
| 15 | Available disk space warning output | Signal output for available disk space warning of the recording/copy area | Open collector output 24 V DC max., 100 mA |
| 16 | HDD error output | Signal output upon detection of a HDD error | |
| 17 | Camera error output | Signal output upon detection of a camera error | |
| 18 | Error output | Signal output upon detection of a unit error | |
| 19 | Power outage recovery completion output | Signal output upon completion of outage processing | High (+5 V - +12 V, 6.3 mA max.) |
| 20 | Time adjustment input/ output | The time of this unit is adjusted to the preset time according to the signal input. This signal output is then generated for the setting time of this unit. Time of all other units is adjusted to the setting time of this unit. | 52 kΩ 5 V pull-up, Output current –100 mA/Non-voltage make contact input |
| 21 | Alarm output | Alarm signal output at an event occurrence | Open collector output 24 V DC max., 100 mA |

| Pin Number | Name | Description of Operation | Remarks |
|---|---|---|---|
| 22 | Alarm suspension input | The state of alarm suspension is assumed according to the signal input. | Non-voltage make contact input 5V pull-up 150 kΩ |
| 23 | Outage detection input | Start of outage processing according to the signal input. | |
| 24 | External recording mode switching input | Changeover to the external recording mode | |
| 25 | +5 V output | +5 V output | 200 mA max. |

## Connectivity for Emergency Recording

Turning [On] the external switch starts emergency recording.

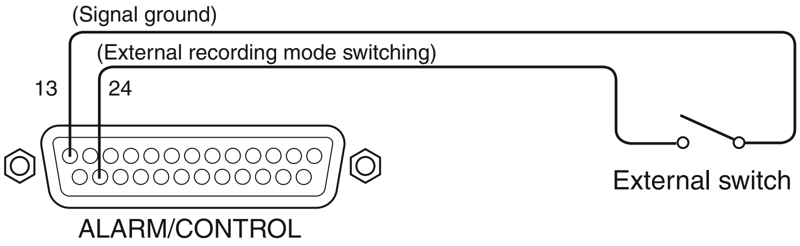
Emergency recording operations differ depending on the [Emergency rec.] settings accessed through the Setup menu (refer to Setup Instructions (PDF file)).


(Signal ground)
(Emergency recording input)
13
12
External switch
ALARM/CONTROL

## Connectivity for Switching to External Recording

Turning [On] the external switch, records by switching the program.

Set the recording program in [Time table setup (Ext.)] under [Time table] on the settings menu (refer to Setup Instructions (PDF file)).

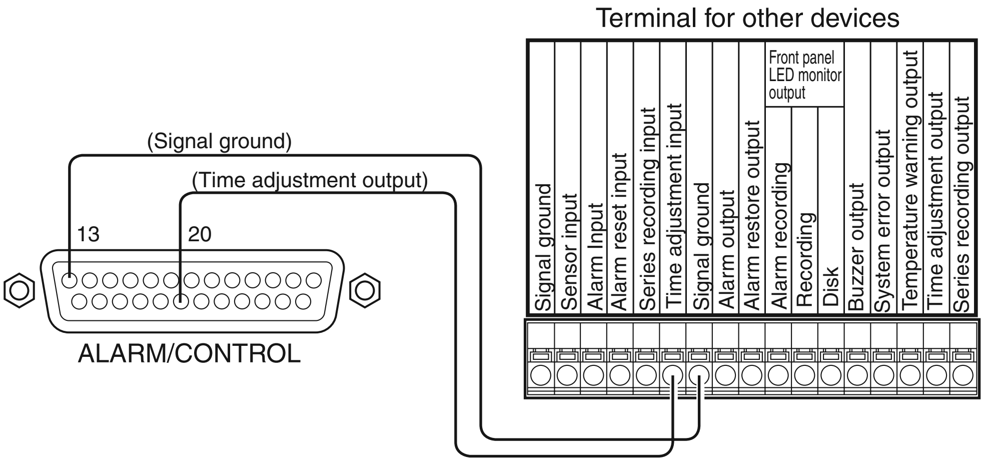

(Signal ground)
(External recording mode switching)
13
24
External switch
ALARM/CONTROL

## Auto Adjustment Time Function Connection 1

### When settings menu - [Basic] - [Time & date] - [Auto adjustment time] is set to [Master]

[Time Adjust Output] is available and the time on other devices is synchronized with the recorder.

When the time set under [Activation time] is reached, a signal is output from the Time adjustment input/output (pin no. 20).


Terminal for other devices
(Signal ground)
(Time adjustment output)
13
20
ALARM/CONTROL
Signal ground
Sensor input
Alarm Input
Alarm reset input
Series recording input
Time adjustment input
Signal ground
Alarm output
Alarm restore output
Front panel LED monitor output
Alarm recording
Recording
Disk
Buzzer output
System error output
Temperature warning output
Time adjustment output
Series recording output

## Auto Adjustment Time Function Connection 2

### When settings menu - [Basic] - [Time & date] - [Auto adjustment time] is set to [Slave]

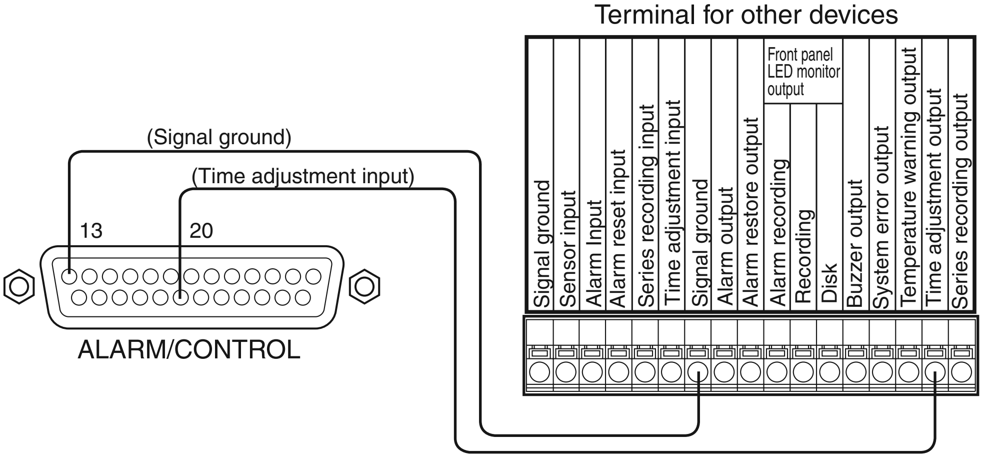
[Time Adjust Input] is available and the time on the recorder is synchronized with the other devices.

15 minutes before or after the set [Activation time] if a signal output from another device is input to the Adjustment Time I/O, the time on the recorder is set to the [Activation time].

Example:

When the [Activation time] is set to 15:00

- A signal is received at 2:50:00 pm → Set to 3:00:00 pm
- A signal is received at 3:14:45 pm → Set to 3:00:00 pm
- A signal is received at 3:20:00 pm → Time is not adjusted.


Terminal for other devices
(Signal ground)
(Time adjustment input)
13
20
ALARM/CONTROL
Front panel LED monitor output
Signal ground
Sensor input
Alarm Input
Alarm reset input
Series recording input
Time adjustment input
Signal ground
Alarm output
Alarm restore output
Alarm recording
Recording
Disk
Buzzer output
System error output
Temperature warning output
Time adjustment output
Series recording output

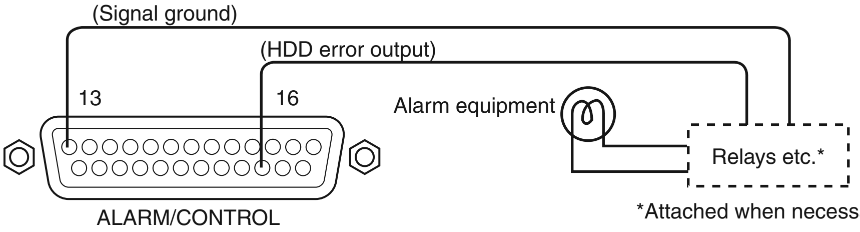
**Important:**

- When [Auto adjustment time] is set to [Slave], time adjustment is not performed during emergency recording and event recording.

## Connectivity for Control Output

Connecting alarm equipment like the buzzer and indicator to pins 15 to 18 sounds the buzzer, lights the indicator and indicates operating status when a signal is output.

An example of HDD error output (pin 16) is shown below.


(Signal ground)
(HDD error output)
13
16
Alarm equipment
Relays etc.*
ALARM/CONTROL

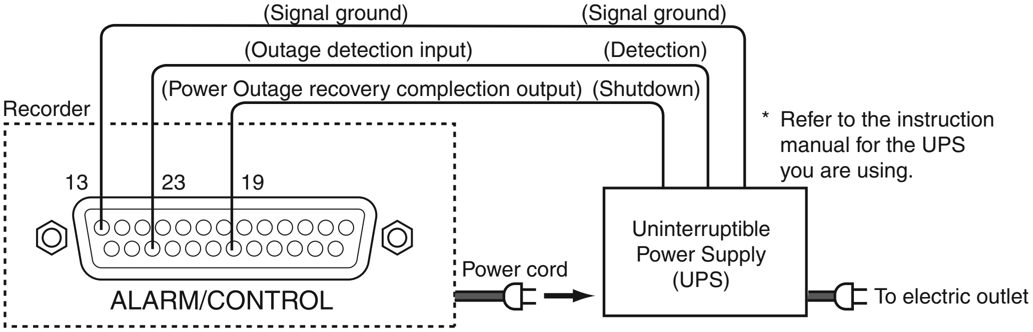
*Attached when necessary.

## Uninterruptible Power Supply (UPS) Connectivity

This section explains how to connect an Uninterruptible Power Supply (hereafter UPS) as part of your power outage countermeasures.

When the recorder receives a power outage detection signal from the UPS, it begins its internal power off sequence (process to stop recording to protect the recorder).

After the internal power off sequence is complete, a signal is output from the Power outage recovery completion output to the UPS and the recorder is then ready to turn off power.


(Signal ground)
(Signal ground)
(Outage detection input)
(Detection)
(Power Outage recovery complection output)
(Shutdown)
Recorder
13
23
19
ALARM/CONTROL
Power cord
Uninterruptible Power Supply (UPS)
To electric outlet

* Refer to the instruction manual for the UPS you are using.

**Important:**

- Be sure to use a UPS that provides a sine-wave output.
  Do not use a UPS that provides a square wave. Doing so may damage the recorder.

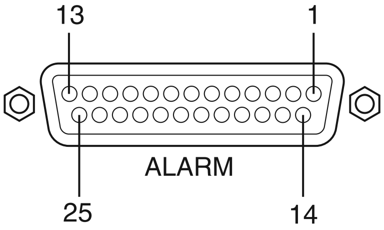
# Using the Alarm Connector

Used to connect alarm-related devices such as a sensor or a door switch.

Create the connector by referring to the pin assignments.

## Pin Assignments

The pin assignments are different for other Network Disk Recorders. Connect using the following chart.

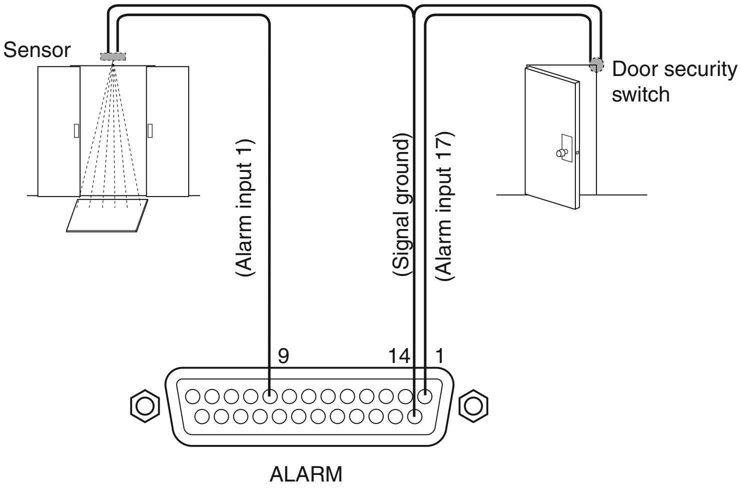


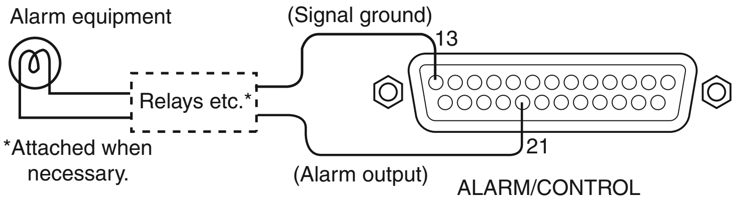
| Pin Number | Name | Description of Operation | Remarks |
|---|---|---|---|
| 1 | Alarm input 17 | Event action will be performed according to the settings. | Non-voltage make contact input 5 V pull-up 150 kΩ |
| 2 | Alarm input 18 | | |
| 3 | Alarm input 19 | | |
| 4 | Alarm input 20 | | |
| 5 | Alarm input 20 | | |
| 6 | Alarm input 22 | | |
| 7 | Alarm input 23 | | |
| 8 | Alarm input 24 | | |
| 9 | Alarm input 1 | | |
| 10 | Alarm input 2 | | |
| 11 | Alarm input 3 | | |
| 12 | Alarm input 4 | | |
| 13 | Signal ground | | |
| 14 | Signal ground | | |
| 15 | Alarm input 25 | Event action will be performed according to the settings. | Non-voltage make contact input 5 V pull-up 150 kΩ |
| 16 | Alarm input 26 | | |
| 17 | Alarm input 27 | | |
| 18 | Alarm input 28 | | |
| 19 | Alarm input 29 | | |
| 20 | Alarm input 30 | | |
| 21 | Alarm input 31 | | |
| 22 | Alarm input 32 | | |
| 23 | Alarm input 5 | | |
| 24 | Alarm input 6 | | |
| 25 | Alarm input 7 | | |

## Alarm Connectivity

When a signal is input to Alarm Inputs 1 through 32 (Alarm connector pins 1 through 12 and 15 through 25, Alarm/Control connector pins 1 through 9), recording and camera images are shown according to the settings.

When alarm devices such as a buzzer or indicator are installed externally, connect them to the Alarm output (Alarm/Control connector pin 21).


Sensor
Door security switch
(Alarm input 1)
(Signal ground)
(Alarm input 17)
9
14
1
ALARM


Alarm equipment
(Signal ground)
13
Relays etc.*
*Attached when necessary.
21
(Alarm output)
ALARM/CONTROL

## Alarm/Control connector and Alarm Connector Timing and Polarity

| Connectors | Active Time | Remarks |
|---|---|---|
| Alarm input | 100 ms or more | L active |
| Alarm output | The time set on the setup menu | L active |
| Network error output | Until the network error is cleared, or until the [ERR] button on the operation window (browser) is clicked. | L active |
| Alarm reset input | 100 ms or more | L active |
| Emergency recording input | 100 ms or more | L active |
| Available disk space warning output | From the time of the error occurrence until the time of the error output duration* | L active |
| HDD error output | From the time of the error occurrence until the time of the error output duration* | L active |
| Camera error output | From the time of the error occurrence until the time of the error output duration or the camera is reset* | L active |
| Error output | From the time of the error occurrence until the time of the error output duration* | L active |
| Time adjustment input/output | Input: 100 ms or more<br>Output: 1 s | Input/Output:<br>L active |
| Alarm suspension input | 100 ms or more | L active, judged level |
| External recording mode switching | 100 ms or more | L active |
| Outage detection input | 5 s or more | L active |
| Power outage recovery completion output | 10 s or more | H active |

*The error output timing is set under [Basic] on the settings menu (refer to the Setup Instructions (PDF file)).

**Note:**

- During L active (Low active), the logic is enabled when the signal's voltage level is Low.
- During H active (High active), the logic is enabled when the signal's voltage level is High.

# Power Supply

## Turning On the Power

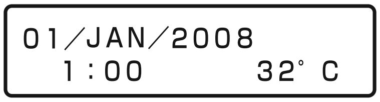
Turn on the recorder.

1 **Insert the power plug to an outlet.**
120 V AC, 60 Hz for NTSC model
220 V - 240 V AC, 50 Hz for PAL model

- Make sure the power source matches the power requirement of the model in use.

2 **Turn on the [POWER] switch on the rear of the recorder.**

- The operate indicator lights and recorder/HDD check (system check) begins.
- During system check, [WJ-ND400] appears on the LCD. Also, [Don't turn off] is displayed, followed by [System Checking].
- The Time display format screen appears when the system check is complete (page 40).



```
01/JAN/2008
  1:00      32° C
```

**Important:**

- Do not turn off the power during the power on process.
- When using extension units (WJ-HDE400), turn on all extension units before turning on the recorder.

## Turning Off the Power

Turn off the recorder.

**Important:**

- When the recorder is not in use for an extended period of time, unplug the power plug.
- Be sure to turn the power on and operate once a week to check recording and playback functionality.

### During Recording

1 **Set [Basic] - [Basic] - [Recording] on the settings menu to [Off] and stop all recording (refer to the Setup Instructions (PDF file)).**

2 **Turn off the [POWER] switch on the rear of the recorder after checking that the HDD indicators are off.**
The operate indicator goes off.

**Note:**

- Do not forget to start recording when you turn on the power.

### During Playback

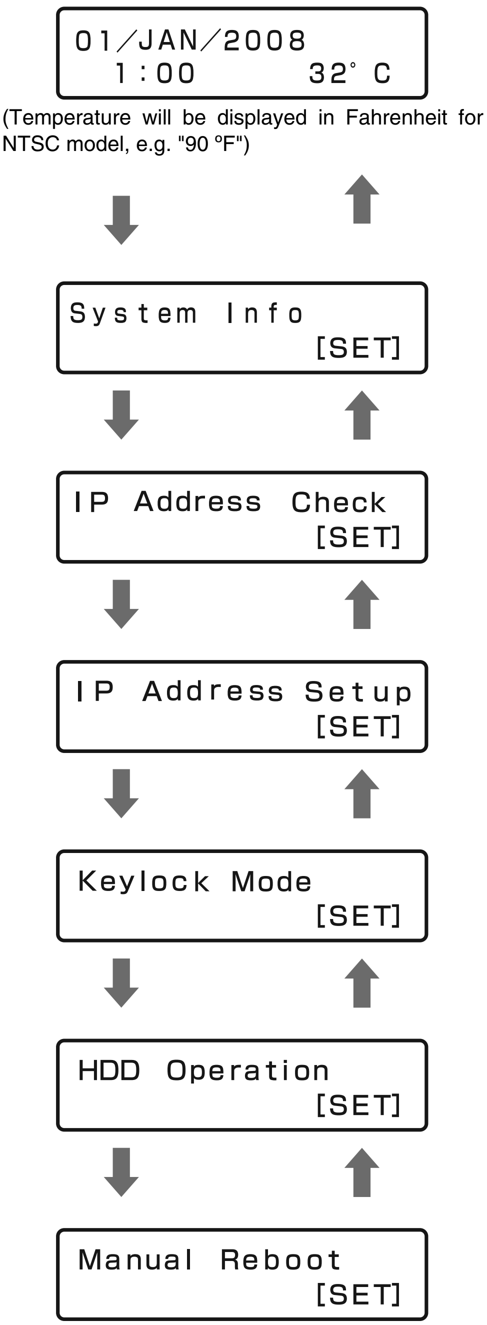
1 **Click the [STOP] button on the [HDD] tab to stop playback (refer to the Operating Instructions (PDF file)).**

2 **Turn off the [POWER] switch on the rear of the recorder after checking that the HDD indicators are off.**
The operate indicator goes off.

# Using the Front Panel for Operations

## Basic Operations

Operate the recorder using the LCD and the buttons on the front panel. The LCD changes as follows when you press the arrow buttons (up or down).



(Temperature will be displayed in Fahrenheit for NTSC model, e.g. "90 °F")

Date display screen

The date, time and internal temperature (reference value) are displayed. Refer to the Setup Instructions (PDF file) for more information.

System Information Screen

Information about the recorder system is displayed. You can check device information such as the software version, hardware version, MAC address, and serial number. Refer to page 41 for more information.

IP Address Information Screen

Displays settings related to the network connection. You can check various network settings such as the IP address or subnet mask. Refer to page 42 for more information.

IP Address Settings Screen

You can configure settings related to the network connection. You can set various network settings such as the IP address or subnet mask. Refer to page 43 for more information.

Key Lock Settings Screen

You can lock the buttons on the front panel to prevent them from being operated. Refer to page 43 for more information.

Change HDD Operation Screen

For adding or removing HDDs. Refer to page 45 for more information.

This screen appears only when the [USE] button is pressed.

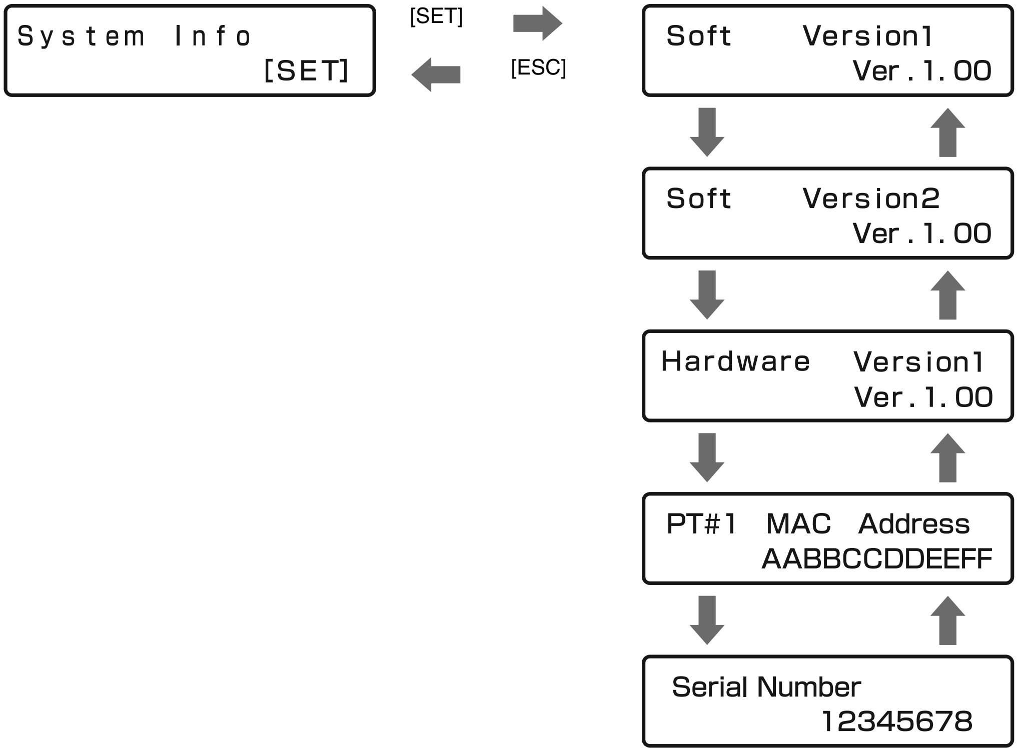
Manual Reboot Screen

For rebooting the recorder. Refer to page 54 for more information.

## Checking System Information

For checking information (software version, hardware version, MAC address, or serial number) about the recording system. Check the settings by switching between screens using the following operations.

The LCD changes as follows when using the arrow buttons (up or down). Also, pressing the arrow buttons (left or right) from [PT#1 MAC address] switches between the PT#2 and PT#3 screens.


System Info
[SET]
[SET]
[ESC]
Soft Version1
Ver.1.00
Soft Version2
Ver.1.00
Hardware Version1
Ver.1.00
PT#1 MAC Address
AABBCCDDEEFF
Serial Number
12345678

## Checking the IP Address

You can check the DHCP, IP address, subnet mask, gateway*, and HTTP port* for each port. The following ports are displayed: Camera port: PT #1, Client PC port (PC port): PT #2, and the Maintenance port: PT#3.

Use the arrow buttons (left or right) to switch between ports.

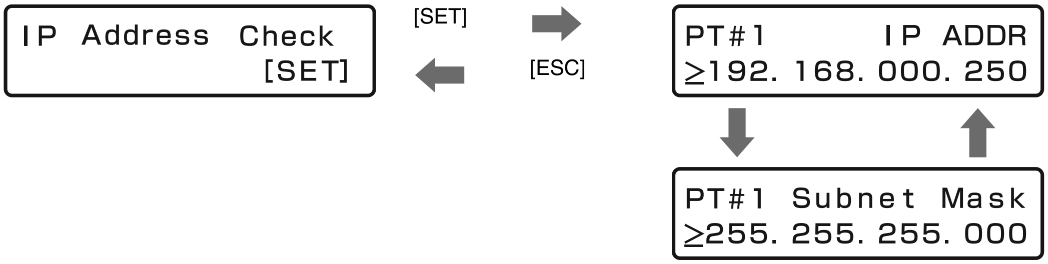
* Gateway and HTTP port settings are checked under the client PC port (PT #2).

The following shows the initial default values for the recorder network settings.

| Item | Camera port | Client PC port | Maintenance port |
|---|---|---|---|
| DHCP | – | OFF | – |
| IP address | 192.168.0.250 | 192.168.1.250 | 192.168.2.250 |
| Subnet mask | 255.255.255.0 | 255.255.255.0 | 255.255.255.0 |
| Gateway | – | 192.168.1.1 | – |
| HTTP port | – | 80 | – |

Check the settings by switching between screens using the following operations.

The LCD changes as follows when using the arrow buttons (up or down).



```
IP Address Check
           [SET]
```

```
PT#1     IP ADDR
≥192.168.000.250
```

```
PT#1 Subnet Mask
≥255.255.255.000
```

# Setting the IP Address

Settable items are the same as those in "Checking the IP Address (page 42)".

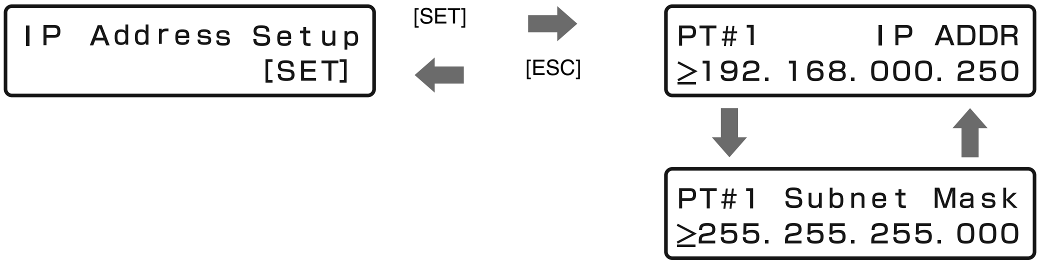
Configure the settings for each item by switching between screens using the following operations. When the cursor is ">", use the arrow buttons (up or down) to switch between screens. The cursor is shown with an under bar (_).

The ports are displayed as follows: Camera port: PT #1, Client PC port: PT #2, and Maintenance port: PT #3.

Use the arrow buttons (left or right) to switch between ports.

Gateway and HTTP port settings are configured under the client PC port (PT #2).

The LCD changes as follows when using the arrow buttons (up or down).



IP Address Setup
[SET]

PT#1 IP ADDR
≥192. 168. 000. 250

PT#1 Subnet Mask
≥255. 255. 255. 000

**Important:**

- Always configure the network settings for the ports using different subnet masks. Using the same subnet mask may result in improper network communication.

## Configuring the Settings for Each Item

1 **Click the [SET] button when the cursor is [>].**

The cursor moves to the number area.

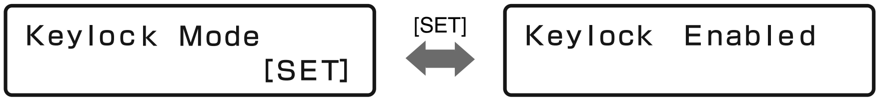
- When the cursor is ">" and you press the arrow buttons (left or right), the PT #2 and PT #3 screens are displayed and you can select other ports.

2 **Move the cursor using the arrow buttons (up or down) and enter values using (up or down).**

3 **Press the [ESC] button to move the cursor to ">" and check the settings.**

# Setting and Canceling Key Lock

You can lock the buttons on the front panel to prevent them from being operated. Press the [SET] button on the Key Lock Setting screen to lock the keys. [Keylock Enabled] is displayed. Then, it returns to the display format screen.



Keylock Mode
[SET]

Keylock Enabled

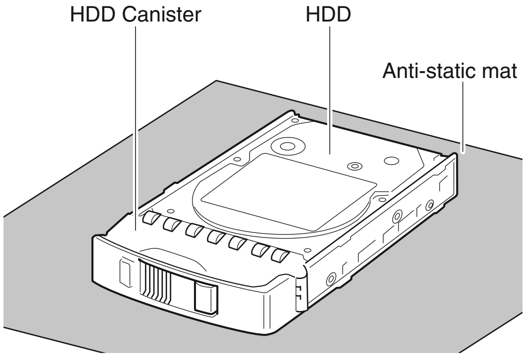
To cancel the key lock, enter the password (default: 12345) on the Password Entry screen. You can change the password on the settings menu. Refer to the Setup Instructions (PDF file) for more information.

## HDD Unit

Use the HDD canister provided to install the HDD.

The HDDs can be easily installed or removed from the HDD slots inside the front cover.

Contact your dealer for information on purchasing, installing, and replacing HDDs.



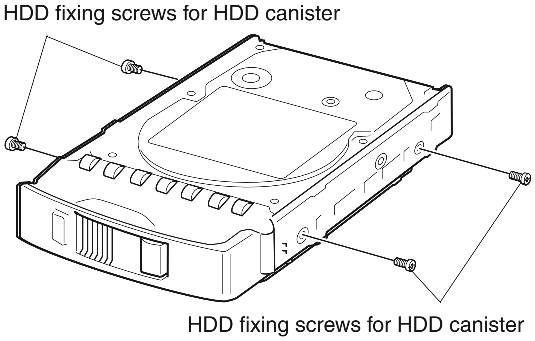
**Important:**

- HDDs are precise devices. Before starting work, refer to "Hard disk drives (page 9)" for information on how to handle HDDs. Also, note the following precautions.
  - Do not subject them to vibration or impact.
  - To install HDDs, use a torque driver and tighten the screws to the specified torque.
  - Before touching an HDD, ground yourself against a metal object to eliminate any static electricity. Always hold the HDDs by the sides when carrying them.
  - Use an anti-static mat and wristband when installing or replacing HDDs.
  - To prevent static electricity, do not touch the parts.
  - At the time of purchase, the HDD unit and canisters are packaged in exclusive cushion.

    The HDD units and canisters may be damaged by fall or vibration. When transporting the unit, remove these parts from the unit and package again.

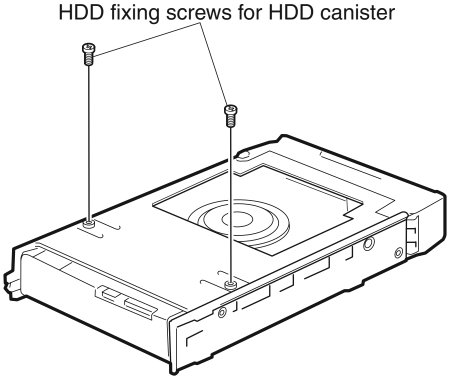
1 **Install the HDD into the special canister and use the four screws to fasten both sides of the HDD.**

The torque for tightening the screws is 0.49 N•m (5 kgf•cm) (use a torque driver)


HDD fixing screws for HDD canister
HDD fixing screws for HDD canister

2 **Use the two screws to fasten the bottom of the HDD.**

The torque for tightening the screws is 0.49 N•m (5 kgf•cm) (use a torque driver)



## Handling the HDD

Install the HDD unit provided (page 46).

The HDDs can be easily installed or removed from the HDD bay slots inside the front cover.

Contact your dealer for information on purchasing, installing, and replacing HDDs.

**Important:**

- HDDs are precise devices. Note the following precautions when handling them.
  - Do not subject them to vibration or impact.
  - Before touching an HDD, ground yourself against a metal object to eliminate any static electricity. Always hold the HDDs by the sides when carrying them.
  - To prevent damage to components from static electricity, do not touch the parts or connectors on top of the HDDs.
- Contact your dealer for information on compatible HDDs.
  Operation is only guaranteed with recommended HDDs.
- All the HDDs must be the same model.
  Even if the capacity is the same, the space may be smaller by a few percent if the HDD models are different.
- Always install the HDDs in order starting with HDD 1.
  (Disk slots in order from 1 to 9, starting on the left)
- In RAID5 or RAID6 modes, do not change the position of the HDD after starting operation.
  Recorded data may not be read correctly if they are changed.

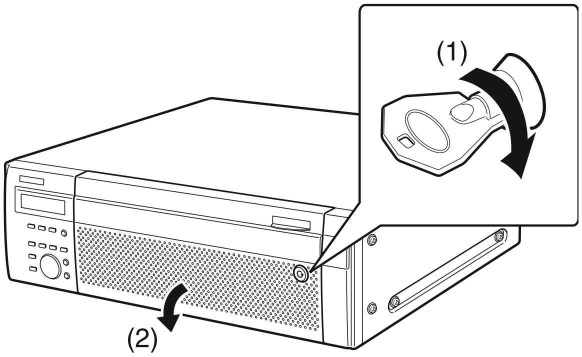
| Item | | Reference | Page |
|---|---|---|---|
| Installation | For individual HDD units | Installing HDDs | page 46 |
| | For extension units* | Installing HDDs by unit | page 47 |
| Remove | For individual HDD units | Removing HDDs | page 48 |
| | For extension units* | Removing HDDs by unit | page 50 |
| Mode setting | All units | Setting the HDD's Operation Mode | page 51 |
| Replacement & recovery | In single mode | Installing HDDs<br>Removing HDDs | page 46<br>page 48 |
| | In RAID mode Error Recovery | HDD error recovery (In RAID mode) | page 52 |

*Extension unit is required for installation as a unit.

## Installing HDDs

You can install HDDs from the recorder while it is in operation.

**1** **Insert the key (included) into the key hole and turn it to the right while pressing gently to open the front cover.**

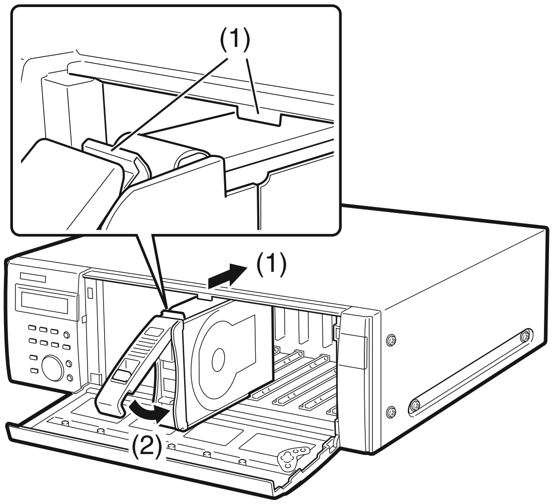


**2** **Insert the HDD units into the HDD bay slots while checking each HDD number marked on the HDD bay slots.**

Press the HDD unit's removal knob down and lift the lever, and then insert it all the way into the disk slot.

**(1) Hook the HDD unit's tab securely on the HDD bay slot.**

**(2) Press the lever down and push the HDD unit until the removal knob clicks.**



**3** **The HDD is automatically recognized.**

- While the HDD is being recognized, the HDD status indicator blinks orange.

  Once the HDD is recognized, the HDD status indicator lights green or blinks.
- The HDD is automatically formatted if it is not preformatted.

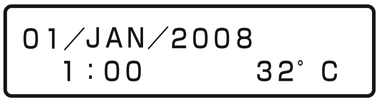
  The HDD status indicator lights green after formatting is complete.
- Preformatted HDDs are recognized for playback only. In this case, the HDD status indicator blinks green. Follow the instructions from step 4 to use the HDD for recording.

**Note:**
- The HDD status indicator may light green before blinking orange when an HDD is inserted.

**4** **Press the [USE] button for over 2 seconds.**

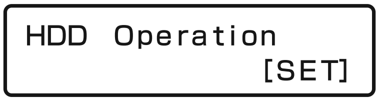
A buzzer sounds.

Press the front panel buttons according to the directions on the LCD.



```
01/JAN/2008
  1:00      32° C
```

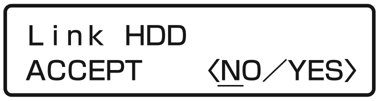
**5** **Press the arrow buttons (up or down) on the front panel until [HDD Operate] appears on the screen.**



```
HDD Operation
               [SET]
```

**6** **Press the [SET] button.**

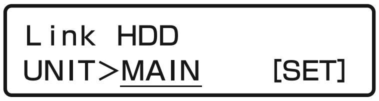
**7** **Press the arrow buttons (up or down) on the front panel until [Link HDD] appears on the screen.**



```
Link HDD
ACCEPT    <NO/YES>
```

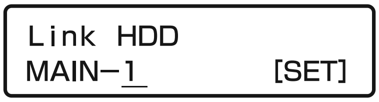
**8** **Select [YES] with the arrow buttons (left or right) and then press the [SET] button.**

**9** **Select the device where you installed the HDD (Recorder: MAIN, Extension unit x: EXTx) with the arrow buttons (up or down) and press the [SET] button.**



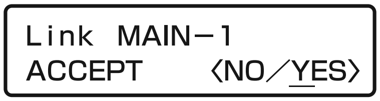
```
Link HDD
UNIT>MAIN     [SET]
```

**10** **Select the device where you installed the HDD with the arrow buttons (up or down) and press the [SET] button.**



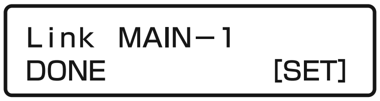
```
Link HDD
MAIN-1        [SET]
```

**11** **Select [YES] with the arrow buttons (left or right) and then press the [SET] button.**



```
Link MAIN-1
ACCEPT     <NO/YES>
```

The HDD is recognized for recording.

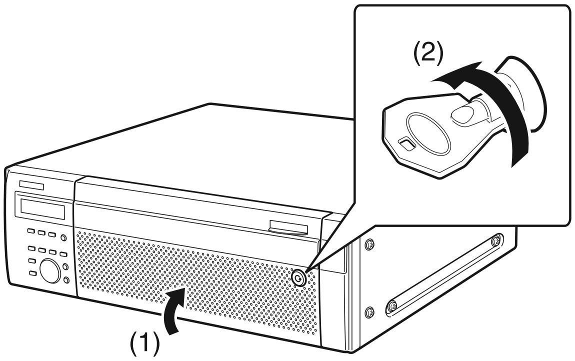


```
Link MAIN-1
DONE          [SET]
```

Press the [SET] button to return to the display format screen.

**12** **Close the front cover and lock it by lightly pressing and turning the key to the left.**

Keep the key in a safe place.



**13** **Check the available disk space.**

Check the following content related to the HDD under [Disk information] on the settings menu. Refer to the Setup Instructions (PDF file) for more information.

- HDD capacity
- HDD remaining capacity
- Hour meter
- Disk operation mode
- Date range of video recorded on the HDD

**Note:**

- HDDs cannot be added while in RAID5 or RAID6 mode.
  The RAID function will not start even if an HDD is installed (linked) in an empty disk slot.

## Installing HDDs by unit

All the HDDs in one extension unit can be linked to operate at the same time. For details refer to the operating instructions for the extension unit.

**1** **Install the HDD units in the extension unit.**

Install the HDDs in the extension unit according to steps 1 to 2 in "Installing HDDs (page 46)" to install HDDs.

Repeat steps 1 to 2 to install multiple HDD units.

**Note:**

- When installing HDD units, each HDD unit must be recognized. (Follow Step 1 and 2)
  Additional HDD units will not be recognized while the first unit is being recognized.

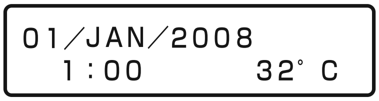
**2** **The HDD is automatically recognized.**

- While the HDD is being recognized, the HDD status indicator blinks orange.
  Once the HDD is recognized, the HDD status indicator lights green or blinks.
- The HDD is automatically formatted if it is not preformatted.
  The HDD status indicator lights green after formatting is complete.
- Preformatted HDDs are recognized for playback only. In this case, the HDD status indicator blinks green. Follow the instructions from step 3 to use the HDD for recording.

**3** **Press the [USE] button for over 2 seconds.**

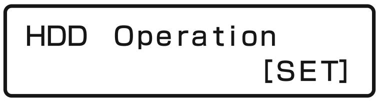
A buzzer sounds.

Press the front panel buttons according to the directions on the LCD.



```
01/JAN/2008
  1:00      32°C
```

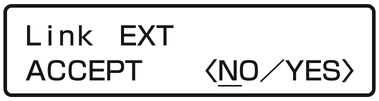
**4** **Press the arrow buttons (up or down) on the front panel until [HDD Operate] appears on the screen.**



```
HDD  Operation
           [SET]
```

**5** **Press the [SET] button.**

**6** **Press the arrow buttons (up or down) on the front panel until [Link EXT] appears on the screen.**



```
Link  EXT
ACCEPT    <NO/YES>
```

**7** **Select [YES] with the arrow buttons (left or right) and then press the [SET] button.**

**8** **Select the number of the extension unit where you installed the HDD with the arrow buttons (up or down) and press the [SET] button.**

```
Link EXT
UNIT>EXT1      [SET]
```

**9** **Select [YES] with the arrow buttons (left or right) and then press the [SET] button.**

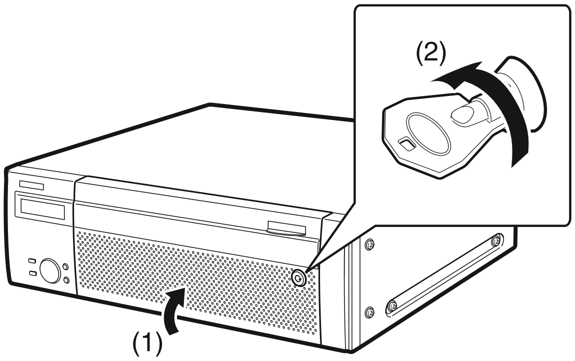
```
Link EXT1
ACCEPT    <NO/YES>
```

All the HDDs installed in the extension unit are recognized for recording.

```
Link EXT1
DONE            [SET]
```

Press the [SET] button to return to the display format screen.

**10** **Close the front cover of the extension unit and lock it by lightly pressing and turning the key to the left.**



**11** **Check the available disk space.**

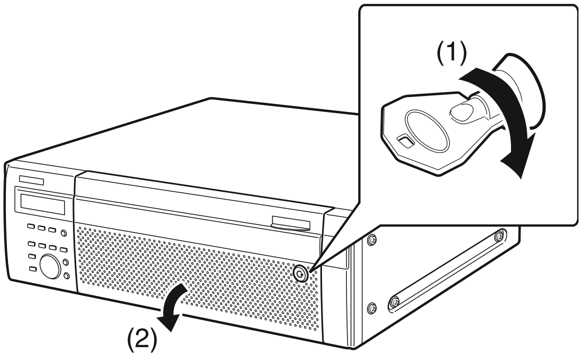
Check the following content related to the HDD under [Disk information] on the settings menu. Refer to the Setup Instructions (PDF file) for more information.

- HDD capacity
- HDD remaining capacity
- Hour meter
- Disk operation mode
- Date range of video recorded on the HDD

## Removing HDDs

You can remove HDD units from the recorder while it is in operation.

**1** **Insert the key (included) into the key hole and turn it while pressing in gently to open the front cover.**



**2** **Press the [USE] button for over 2 seconds.**

A buzzer sounds.

Press the front panel buttons according to the directions on the LCD.

```
01/JAN/2008
  1:00       32° C
```

**3** **Press the arrow buttons (up or down) on the front panel until [HDD Operate] appears on the screen.**

```
HDD Operation
               [SET]
```

**4** **Press the [SET] button.**

**5** **Press the arrow buttons (up or down) on the front panel until [Remove HDD] appears on the screen.**

```
Remove HDD
ACCEPT    <NO/YES>
```

**6** **Select [YES] with the arrow buttons (left or right) and then press the [SET] button.**

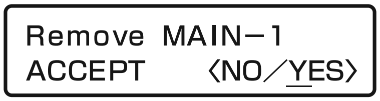
**7** **Select the HDD to be removed (Recorder: MAIN, Extension unit: EXT) with the arrow buttons (up or down) and then press the [SET] button.**

```
Remove  HDD
UNIT>MAIN       [SET]
```

**8** **Select the HDD to be removed with the arrow buttons (up or down) and then press the [SET] button.**

```
Remove  HDD
MAIN-1          [SET]
```

**9** **Select [YES] with the arrow buttons (left or right) and then press the [SET] button.**

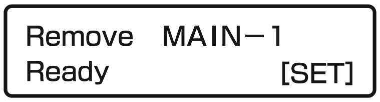


```
Remove MAIN-1
ACCEPT     <NO/YES>
```

The HDD stop process begins and the HDD status indicator blinks orange.

The HDD status indicator goes out once the HDD stop process is complete.

- If you stop the HDD during recording, recording switches to another HDD. Images are not recorded for a few seconds while recording switches. If another HDD is not available, recording stops.



```
Remove  MAIN-1
Ready           [SET]
```

Press the [SET] button to return to the display format screen.

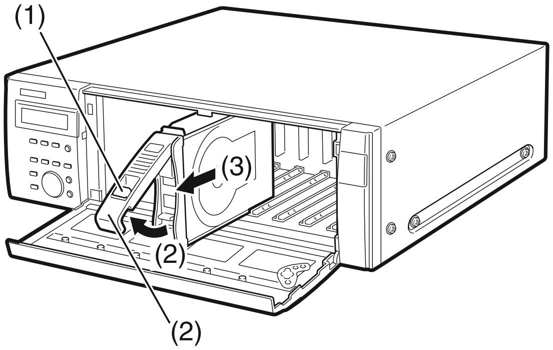
**10** **Remove the HDD unit.**

**(1) Press the knob on the HDD unit.**

**(2) Open the lever.**

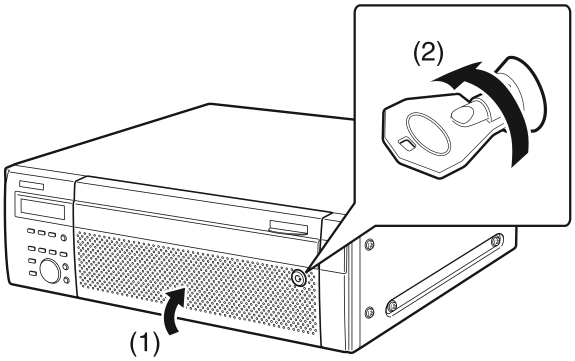
**(3) Remove the HDD unit.**

Remove the HDD carefully so you do not bump it (be careful not to drop it).



**11** **Close the front cover and lock it by lightly pressing and turning the key to the left.**

Keep the key in a safe place.



**12** **Check the disk information.**

Check the following content related to the HDD under [Disk information] on the settings menu. Refer to the Setup Instructions (PDF file) for more information.

- HDD capacity
- HDD remaining capacity
- Hour meter
- Disk operation mode
- Date range of video recorded on the HDD

---

**Note:**

- You cannot remove HDDs by opening the front panel while operating in RAID5 or RAID6 mode.
- Refer to page 53 when replacing HDDs with errors.

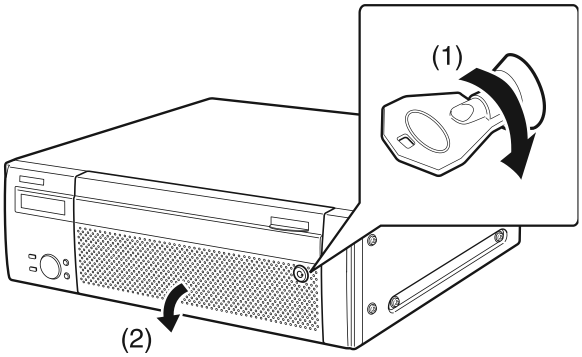
---

## Removing HDDs by unit

The HDDs in one extension unit can be removed simultaneously.

For details refer to the operating instructions for the extension unit.

**1** **Insert the key (included) into the key hole on the front cover of the extension unit and turn it while pressing in gently to open the front cover.**



**2** **Press the [USE] button for over 2 seconds.**

A buzzer sounds.

Press the front panel buttons according to the directions on the LCD panel.

```
01/JAN/2008
  1:00      32° C
```

**3** **Press the arrow buttons (up or down) on the front panel until [HDD Operate] appears on the screen.**

```
HDD Operation
            [SET]
```

**4** **Press the [SET] button.**

**5** **Press the arrow buttons (up or down) on the front panel until [Remove EXT] appears on the screen.**

```
Remove EXT
ACCEPT     <NO/YES>
```

**6** **Select [YES] with the arrow buttons (left or right) and then press the [SET] button.**

**7** **Select the extension unit (EXTx) to be removed with the arrow buttons (up or down) and then press the [SET] button.**

```
Remove EXT
UNIT>EXT1      [SET]
```

**8** **Select [YES] with the arrow buttons (left or right) and then press the [SET] button.**

```
Remove EXT1
ACCEPT     <NO/YES>
```

The extension unit stop process begins and all the HDD status indicators blink orange.

All the HDD status indicators go off once the stop process is complete.

- If you stop the extension unit during recording, recording switches to the HDD in another device. Video is not recorded for a few seconds while recording switches. If another HDD is not available, recording stops.

```
Remove EXT1
Ready          [SET]
```

Press the [SET] button to return to the display format screen.

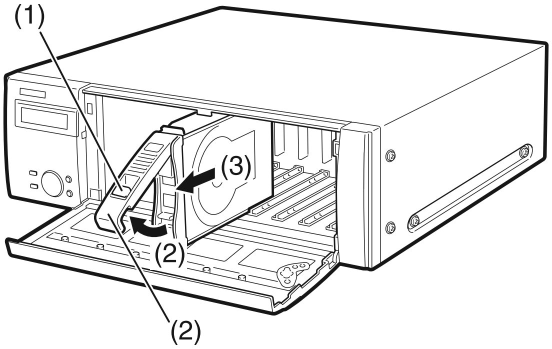
**9** **Make sure that all the HDD status indicators on the extension unit are out and then remove the HDD unit.**

**(1) Press the knob on the HDD unit.**

**(2) Open the lever.**

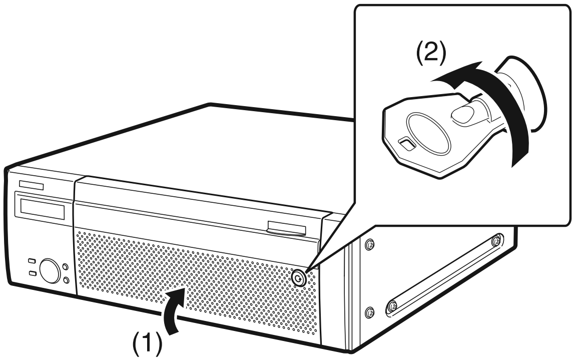
**(3) Remove the HDD unit.**

Remove the HDD carefully so you do not bump it (be careful not to drop it).



**10** **Close the front cover of the extension unit and lock it by lightly pressing and turning the key to the left.**

Keep the key in a safe place.



**11** **Check the disk information.**

Check the following content related to the HDD under [Disk information] on the settings menu. Refer to the Setup Instructions (PDF file) for more information.

- HDD capacity
- HDD remaining capacity
- Hour meter
- Disk operation mode
- Date range of video recorded on the HDD

**Note:**

- You cannot remove individual HDDs by opening the front panel while operating in RAID5 or RAID6 mode.
- Refer to page 53 when replacing HDDs with errors.

## Setting the HDD's Operation Mode

Sets the HDD operation mode.

The initial setting is set to [SINGLE mode].

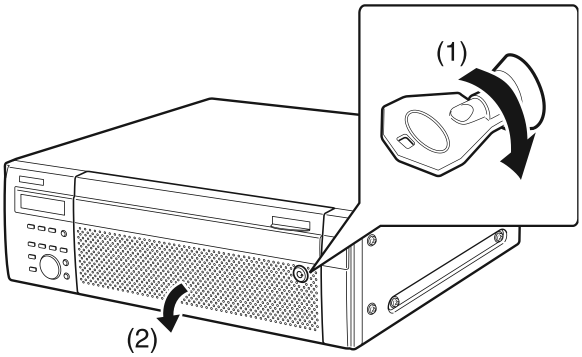
This setting is not necessary to use the single mode as it is set up.

**1** **Turn off the recorder.**

Turn off the power according to "Turning Off the Power (page 39)".

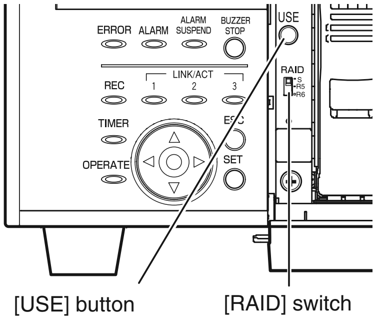
**2** **Turn on any extension units first if any are connected.**

**3** **Insert the key (included) into the key hole and turn it while pressing in gently to open the front cover.**



**4** **Sets the operation mode with the [RAID] switch.**

S : SINGLE mode (default)
R5 : RAID5 mode
R6 : RAID6 mode



**5** **Hold down the [USE] button and turn on the power to boot up.**

- The settings are enabled at bootup. Continue to press the [USE] button until the buzzer sounds.

**Important:**

- The HDD operation mode cannot be changed once the system is operating. Recorded data may not be read correctly if the mode is changed after the system is operating.

## HDD Error Recovery (During RAID Operation)

When errors occur during RAID5 or RAID6 operation, the HDD errors in the following table are displayed.

When one HDD has errors ([1down]) in RAID5 mode, the data on the remaining HDDs can be read and recovery is possible.

When two HDDs have errors ([2down]) in RAID6 mode, the data on the remaining HDDs can be read and recovery is possible.

When any errors occur on an HDD, replace the effected HDD as soon as possible.

For details refer to the operating instructions for the extension unit.

*Contact your dealer for information on replacing HDDs.

**Important:**

- RAID5 mode
  Data cannot be recovered when two or more HDDs have errors ([2 down]) or when an HDD has errors during recovery.
- RAID6 mode
  Data cannot be recovered when three or more HDDs have errors ([3 down]) or when an HDD has errors during recovery.

| Data source | | During HDD error (malfunction) | During recovery |
|---|---|---|---|
| Recorder/ Extension unit | LCD | • RAID 1 DOWN: [1down]<br>• RAID 2 DOWN: [2down]<br>• RAID 3 DOWN (only while in RAID6 mode): [3down] | **Note:**<br>• Only extension units are shown. |
| | HDD access indicator | Lights red:<br>Errors have occurred on HDD<br>(Data can be recovered by replacing the HDD)<br>• When in RAID5 mode, the first HDD has errors<br>• When using RAID6, the first two HDDs have errors<br>Blinks red:<br>Errors have occurred on HDD<br>(Data cannot be recovered even if HDD is replaced)<br>• When in RAID5 mode, the second HDD has errors<br>• When in RAID6 mode, the third HDD has errors | Alternating orange/red<br>HDD being recovered in RAID5/RAID6 |
| Recorder | [Error Log]<br>Refer to the Operating Instructions (PDF file) for more information. | • RAID 1 DOWN<br>Recorder: MAIN RAIDm 1 DOWN<br>Extension unit: EXTu RAIDm 1 DOWN<br>• RAID 2 DOWN<br>Recorder: MAIN RAIDm 2 DOWN<br>Extension unit: EXTu RAIDm 2 DOWN<br>• RAID 3 DOWN<br>Recorder: MAIN RAID6 3 DOWN<br>Extension unit: EXTu RAID6 3 DOWN<br>m: Operational mode<br>u: Unit number | RAID recovery failure<br>• Recorder<br>MAIN RAIDm RECOVERY FAILURE<br>• Extension unit<br>EXTu RAIDm RECOVERY FAILURE<br>m: Operational mode<br>u: Unit number |

## Replacing Faulty HDD during RAID Operation

When one HDD errors ([1down]) in RAID5 mode, the data on the remaining HDDs can be read and recovery is possible.

When two HDDs errors ([2down]) in RAID6 mode, the data on the remaining HDDs can be read and recovery is possible.

**Important:**

- Do not turn off the power until RAID is recovered. Data recovery may not be done normally when the power is turned off.

---

**Note:**

- When errors (1down) occur in RAID6 mode, quickly execute error recovery.

---

```
MAIN  ERR
RAID5  1down
```

```
MAIN  ERR
RAID6  1down
```

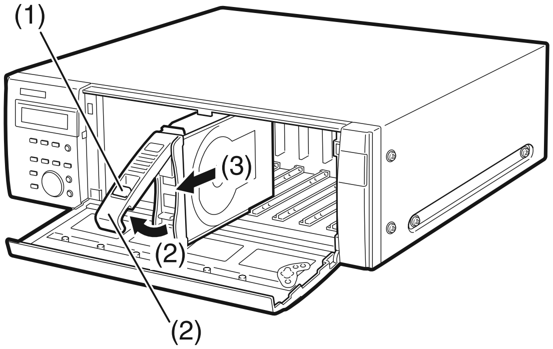
**1** **Replace units that have an HDD access indicator that lights or blinks red.**

**(1) Press the knob on the HDD unit.**

**(2) Open the lever.**

**(3) Remove the HDD unit.**

Remove the HDD carefully so you do not bump it (be careful not to drop it).

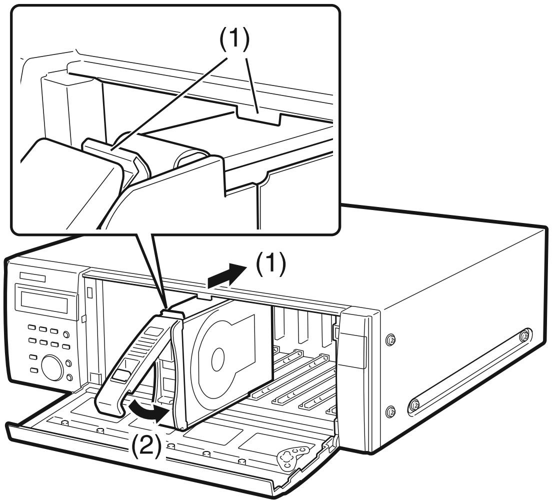


**2** **Use the HDD numbers for the HDD bay slots as a guideline when inserting the new HDD unit into the empty slot.**

Press the HDD unit's removal knob down and lift the lever, and then insert it all the way into the disk slot.

**(1) Hook the HDD unit's tab securely on the HDD bay slot.**

**(2) Press the lever down and push the HDD unit until the removal knob clicks.**



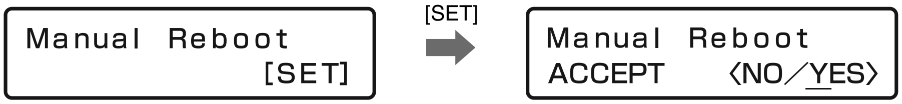
**3** **The HDD is automatically recognized and recovery starts. When recovery starts, the HDD access indicator blinks orange and red.**

**4** **When errors are recovered, the HDD access indicator goes off or lights green.**

When two HDDs have errors in RAID6 mode, data recovery of the second HDD starts after the first HDD.

## Rebooting

Press the [SET] button on the Manual Reboot screen to display the Manual Reboot ACCEPT screen. Select [YES] and press the [SET] button to reboot.



```
Manual  Reboot
              [SET]
```

[SET]

```
Manual  Reboot
ACCEPT    〈NO／YES〉
```

# Troubleshooting

## Problems

Before requesting service, check the following items. Contact your dealer if the problem does not appear here, if the problem is not resolved by these remedies, or if you have any questions about settings and installation.

| Problem | Check item/remedy | Page |
|---|---|---|
| Power is not turn on. | Make sure that the power plug is firmly connected to the electric outlet. | - |
| | Make sure supplied power cord is firmly connected to the equipment. | page 39 |
| Alarms are not activated. | Check if signals are input to the alarm/control connectors and alarm connectors on the rear panel. | page 32<br>page 36 |
| | Check if the alarm connectors are correctly set. | page 38 |
| The [ERROR] indicator lights orange.<br>Temperature is too high, stop operation as soon as possible. | Fan has malfunctioned and stopped.<br>Contact your dealer. | - |
| | Make sure that nothing is blocking the vents in front or the fan on the rear. | page 9 |
| | Internal temperature is too low or too high.<br>Install the product within the ambient operating temperature. | page 9 |
| | When the [ERROR] indicator lights orange, the internal temperature may be high.<br>Make sure that dust has not collected on the vents. | - |
| Extension unit is not recognized.<br>(When an extension unit is connected) | Make sure that the cable provided with the extension unit is being used. | page 31 |
| | Make sure that the connection cable is not loose. | page 31 |
| | Was the extension unit turned on before the main unit?<br>Reboot the system and turn on the extension unit first. | page 39 |
| | If you are using a breaker or other system to turn on the power to the entire system simultaneously, make sure that all the devices are connected to the same power source. | - |
| | If you are using UPS (uninterrupted power supply), connect all the devices to the same UPS. | - |
| HDD is not recognized.<br>The HDD status indicator does not light. | Make sure the HDD unit is firmly inserted into the disk slot. | page 46 |
| | Have you insert another HDD unit while the first unit was being recognized?<br>Remove the unrecognized HDD unit and try again. | page 46 |
| | HDD has errors. | - |
| HDD status indicator lights, but HDD is not recognized. | Link the HDD again. | page 46 |
| HDD indicator lights or blinks red | Make sure that the HDD units are installed in order from HDD 1 to 9.<br>Surely install the HDD units in order starting with HDD 1. | page 46 |
| | HDD has troubles in RAID5/RAID6 mode.<br>The indicator of the first HDD with error lights, and the indicators of other HDDs with errors blink. | page 53 |

| Problem | Check item/remedy | Page |
|---|---|---|
| Cannot recover data after replacing HDDs<br>(In RAID5/RAID6 mode) | Make sure the HDD unit is firmly inserted into the disk slot. | page 53 |
| | The HDD you are trying to recover data from has errors. | - |
| | Make sure that the capacity of the replaced HDD is not smaller than the original HDD.<br>Even if the capacity is the same, the space may be smaller by a few percent if the HDD models are different. All the HDDs must be the same model.<br>Also, use a replacement HDD that has equal or greater capacity than the original. | page 45 |
| HDD indicator lights orange and red alternately even though recording or playback is not done. | Make sure that data is not recovered in RAID5/RAID6 mode. | page 52 |
| The power cord insulation is damaged. | The power cord, AC inlet or the power plug is damaged.<br>If you continue to use it, a fire or an electric shock may occur.<br>Unplug the power cord immediately, and refer servicing to qualified service personnel. | - |
| The power cord, AC inlet or the power plug are hot during use. | | - |
| The power cord gets warm or hot if bent or pulled during use. | | - |
| [MAIN ERR INITIAL ERR] is displayed on the LCD. | Set the HDD operation mode. | page 51 |
| [EXTu ERR INITIAL ERR] is displayed on the LCD.<br>u: Unit number | After the extension unit is initialized, reconnect the extension unit. | Installation Guide for expansion units |

# Specifications

## WJ-ND400

### ● General Specifications

| | | |
|---|---|---|
| Power source | NTSC model: 120 V AC, 60 Hz<br>PAL model: 220 V - 240 V AC, 50 Hz | |
| Power consumption | 170 W | |
| Ambient operating temperature | +5 °C to +45 °C {41 °F - 113 °F} | |
| Ambient operating humidity | 5 % to 90 % (non condensing) | |
| Maximum operating altitude | 2 000 m {6 562 feet} above sea level | |
| Dimensions | 430 mm (W) x 132 mm (H) x 400 mm (D) {16-15/16" (W) x 5-3/16" (H) x15-12/16" (D)}<br>(excluding rubber feet and projections) | |
| Weight | When 1 HDD is installed | 14 kg {30.9 lbs} |
| | When 9 HDDs are installed | 20 kg {44.15 lbs} |

### ● HDD (One HDD is provided at the factory. Contact your dealer to purchase additional HDD.)

| | |
|---|---|
| HDD<br>Type/function | 3.5" HDD x 1(Up to 9 HDDs)<br>RAID5 mode available (only when 3 or more HDDs are installed)<br>RAID6 mode available (only when 4 or more HDDs are installed) |

### ● Input/output

| | |
|---|---|
| External storage | High-speed serial interface, 1.5 Gbps (theoretical value), x5 |
| Alarm/Control connector | Alarm input 8-16[*1], Network error output[*2], Alarm reset input[*1], Emergency recording input[*1], Available disk space warning output[*2], HDD error output[*2], Camera error output[*2], Error output[*2], Power outage recovery completion output[*3], Time adjustment input/output[*4], Alarm output[*2],<br>Alarm suspension input[*1], Power outage detection input[*1], External recording mode switching[*1], +5 V output[*5]<br>(D-sub 25-pin) |
| Alarm connector | Alarm input 1-7[*1], Alarm input 17-32[*1] (D-sub 25-pin) |
| Client PC port | 10BASE-T/100BASE-TX/1000BASE-T (RJ-45) |
| Camera port | 10BASE-T/100BASE-TX/1000BASE-T (RJ-45) |
| Maintenance port | 10BASE-T (RJ-45) |

*1 No voltage make contact input +5 V pull-up, 150 kΩ

*2 Maximum output of open collector is DC 24 V, 100 mA

*3 High (+5 V to +12 V, max. 6.3 mA)

*4 52 kΩ +5-V pull-up, output current -100 mA, no voltage make contact input

*5 Max. 200 mA

# Accessories

## Standard Accessories

| | |
|---|---|
| • CD-ROM [*1] | 1 pc. |
| • Installation Guide (this book) | 1 pc. |
| • Quick Reference Guide | 1 pc. |
| • Warranty (Only for NTSC model) | 1 pc. |

The followings are for installation:

| | |
|---|---|
| • Hard disk unit | 1 pc. |
| • Power cord (NTSC model) | 1 pc. |
| • Power cord (PAL model) | 2 pcs. |
| • Key | 2 pcs. |
| • Label [*2] | 1 pc. |
| • Rack mounting brackets | 2 pcs. |
| • Rack mounting brackets fixing screw | 6 pcs. |
| • Handle for rack mounting bracket | 2 pcs. |
| • Handle fixing screw for rack mounting bracket | 4 pcs. |
| • Washer | 4 pcs. |
| • HDD canister | 8 pcs. |
| • HDD fixing screw for HDD canister | 48 pcs. |

*1 The CD-ROM contains the operating instructions (PDFs).

*2 This label is the same one found on the surface of this product. Keep it in view when installing this product in the rack.

# Index

1 port operation ........ 25
1 000BASE-T ........ 25
100BASE-TX ........ 25
10BASE-T ........ 25
2 port operation ........ 26

**A**
Accessing Live Images ........ 18
Active time ........ 38
ADSL ........ 27, 29
Alarm connectivity ........ 37
Alarm input ........ 38
Alarm mail ........ 19
Alarm messages ........ 19
Alarm output ........ 32
Alarm suspension input ........ 33, 38
Alarm connector ........ 36, 38
Alarm/Control connector ........ 32, 38

**C**
Camera port ........ 15, 26
Change HTTP ports ........ 20
Client PC port ........ 18, 25
Command alarms ........ 18
Control output ........ 34
Control terminals ........ 38

**D**
Date and time ........ 40
DHCP ........ 42
Display 1 live screen ........ 19
Display 4 live screens ........ 19
D-SUB ........ 15

**E**
EIA standard ........ 23
Emergency rec. ........ 33
Emergency recording area ........ 16
Error Recovery ........ 52
ESC ........ 12
Event function ........ 18
Event log ........ 19
Extension unit ........ 31
External recording ........ 33

**F**
FTP server ........ 19

**G**
Gateway ........ 42, 43
GNU ........ 10
GPL ........ 10

**H**
Hard disk unit ........ 16
HDD ........ 16, 45, 52
HDD error output ........ 32, 34, 38
HDD fault tolerance ........ 17
HDD recorded data ........ 17
HDD replacement ........ 16, 45, 53
HDD unit ........ 14, 16, 44
High-definition images ........ 16
Host ........ 20
Host authentication ........ 20
HTTP port ........ 20, 42, 43
HUB ........ 25

**I**
IP address ........ 20, 42, 43

**J**
JPEG ........ 16, 18

**K**
Key Lock ........ 43

**L**
LAN ........ 25
LGPL ........ 10
Limit access ........ 20
LINK/ACT ........ 12
LINK/ACT1 ........ 12
LINK/ACT2 ........ 12
Live monitoring ........ 19
Live sequence display ........ 19

**M**
Maintenance ........ 21
Maintenance port ........ 42
Manual Reboot ........ 54
Master ........ 33
Mega pixel camera ........ 16
MPEG-4 ........ 18

**N**
Network error output ........ 32, 38
Network security ........ 20

**P**
Pan & tilt ........ 20
Pin assignments ........ 32, 36
Post-event recording ........ 19
Power outage detection ........ 35
Pre-event recording ........ 19
Preset operations ........ 20

**R**
RAID5 ........ 52
RAID6 ........ 52
Rebooting ........ 54
Recording rate setting ........ 21
Remote ........ 20

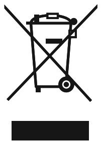
**S**
Schedule recording ........ 19
SD Memory Recording ........ 21
Security Function ........ 20
Setting Schedules ........ 18
SIGNAL GND terminal ........ 15
Site alarms ........ 18
Slave ........ 34
Subnet mask ........ 20, 42
Switch external recording mode ........ 33
SXGA ........ 16

**T**
Terminal alarms ........ 18

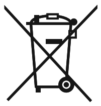
**U**
Uninterruptible Power Supply ........ 35
Unit ........ 47, 50
UPS ........ 35
Use authentication ........ 20

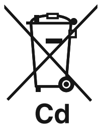
**V**
VGA ........ 16
VPN router ........ 20

## Information for Users on Collection and Disposal of Old Equipment and used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.
For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.
By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.
For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.
Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.





**For business users in the European Union**
If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

**[Information on Disposal in other Countries outside the European Union]**
These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

**Note for the battery symbol (bottom two symbol examples):**
This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

**For U.S., Canadian and Puerto Rican fields:**

**Panasonic System Solutions Company,**
Unit Company of Panasonic Corporation of North America
www.panasonic.com/business/
For customer support, call 1.800.528.6747
Three Panasonic Way 2H-2, Secaucus, New Jersey 07094

**Panasonic Canada Inc.**
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3 Canada (905)624-5010
http://www.panasonic.ca

**Panasonic Sales Company**
Division of Panasonic Puerto Rico Inc.
San Gabriel Industrial Park 65th Infantry Ave. KM. 9.5
Carolina
P.R. 00985(809)750-4300

**For European and other fields:**

**Matsushita Electric Industrial Co., Ltd.**
Osaka, Japan
http://panasonic.net

Importer’s name and address to follow EU rules:

Panasonic Testing Centre
Panasonic Services Europe GmbH
Winsbergring 15, 22525 Hamburg F. R. Germany

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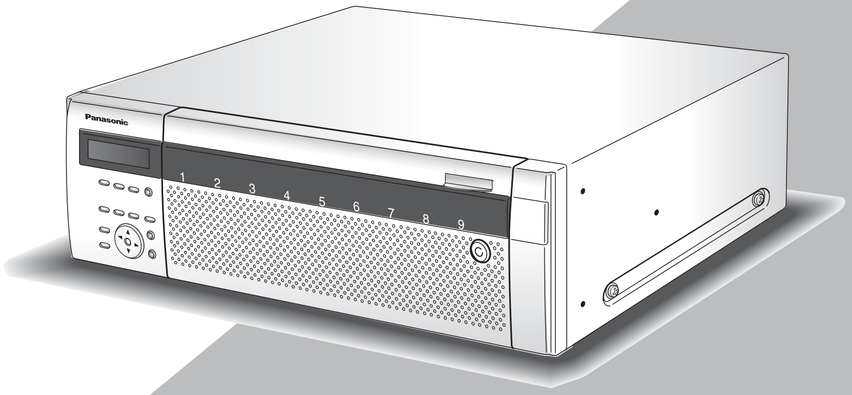
Panasonic

# Network Disk Recorder

# Setup Instructions

Model No. **WJ-ND400**



Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

# Contents

## Preface

Preface ........ 5
About these Operating Instructions ........ 5
System Requirements for a PC ........ 6
Trademarks and Registered Trademarks ........ 6
**Restrictions when operating MPEG-4 images ........ 7**

## Initial configurations

**Getting started ........ 8**
Setup procedure ........ 8
Setup menu list ........ 9
**Network settings ........ 11**
Recorder network settings ........ 11
PC network settings ........ 13
**About operating windows ........ 15**
Display and close the operating window ........ 15
Names and functions of components ........ 17
Top page ........ 17
[Control] button ........ 18
[Cam. select] button ........ 19
[Setup] button ........ 20
Status display area ........ 21
Playback point operation area ........ 22
[HDD] tab ........ 22
[CAM] tab ........ 24
Basic operations ........ 25

## Setup

**Quick settings ........ 26**
Settings ........ 26
Language, and time & date settings ........ 26
Network setup ........ 27
Camera registration ........ 28
Program settings ........ 30
**Basics ........ 31**
Basics ........ 31
Time & date ........ 32
**Emergency recording ........ 34**
Emergency recording ........ 34
About the [Measurement] button ........ 36
About SD memory recording ........ 36
**Event ........ 37**
Event functions ........ 37
Basics ........ 38
Terminal alarm ........ 39

Site alarm ........ 40
Command alarm ........ 41
**Schedules ........ 42**
Program ........ 42
About the [Measurement] button ........ 45
Time table ........ 46
About externally controlled recording ........ 47
Special days ........ 47
**Camera ........ 48**
NW camera ........ 48
Automatically detecting and registering cameras ........ 48
Switch cameras (4-screen display setting) ........ 50
Checking and changing a camera (Manually setting) ........ 50
Group ........ 52
Sequence ........ 53
**Server ........ 55**
NTP ........ 55
FTP ........ 56
Mail ........ 58
Proxy ........ 60
**Network ........ 61**
Basics ........ 61
DDNS ........ 64
SNMP ........ 65
Panasonic alarm protocol ........ 66
**User management ........ 67**
Basics ........ 67
Administrator ........ 68
Users ........ 69
Editing user information ........ 70
Deleting user information ........ 70
Hosts ........ 71
Editing host information ........ 72
Deleting host information ........ 72
User level ........ 73
**Maintenance ........ 75**
Recorder information ........ 75
Disk information ........ 76
Network information ........ 78
Disk ........ 79
Deleting image data from a disk ........ 80
Settings management ........ 81

## Disk management

**Configuring disks ........ 82**
HDD space management ........ 82
Disk partition information ........ 83

**Data encryption** .......... **85**
Encryption settings .......... 85
**Formatting disks** .......... **86**
Format .......... 86
Pre-event recording area formatting .......... 88

## Attachments

**About mail notification** .......... **90**
Alarm mail notification .......... 90
Warning mail notification .......... 90
**Troubleshooting** .......... **93**
Problems .......... 93
Message display .......... 96
**Glossary** .......... **97**
Words used in the manual .......... 97
**Index** .......... **100**

# Preface

The Network Disk Recorder (WJ-ND400) is for recording images and audio from network surveillance cameras to a hard disk (hereafter HDD). It is possible to connect up to 64 cameras over a network.

Also, it is possible to access and operate the recorder via a network from the web browser on a computer (hereafter PC). A maximum of 16 PCs can be connected (via a network).

- The network settings for the PC need to be done to do settings and operations from the PC. A web browser must also be installed.

# About these Operating Instructions

There are four manuals, they include the Installation Guide, Setup Instructions (PDF file), Operating Instructions (PDF file), and the Quick Reference Guide.

- Installation Guide : How to configure required settings and connect the equipment.
- Setup Instructions (PDF file) : How to configure required settings and connect the equipment to perform operations from a PC over a network.
- Operating Instructions (PDF file) : How to perform operations from a PC.
- Quick Reference Guide : Basic settings and frequently used functions.

Adobe® Reader is required to refer to the “Operating Instructions” and the “Setup Instructions” on the provided CD-ROM. When the Adobe® Reader is not installed on the PC, download the latest Adobe® Reader from the Adobe web site and install it.

In this manual and on the screen, the ND400 and the recorder are shown as WJ-ND400.

Refer to the "readme.txt" file on the CD-ROM bundled with the recorder for information about the versions and types of separately available software and cameras supported.

The following abbreviations are used in this document.

Microsoft® Windows Vista® Business (32-bit) is called Windows Vista®.

Microsoft® Windows® XP Professional SP2, and Microsoft® Windows® XP Home Edition SP2 are called Windows® XP.

# System Requirements for a PC

It is recommended to operate this unit using a PC that meets the following system requirements.

- OS : Microsoft® Windows Vista® Business (32-bit)
  : Microsoft® Windows ® XP Professional SP2*
  : Microsoft® Windows ® XP Home Edition SP2*
- OS Language : English, French, Spanish, German, Italian, Russian, Chinese
- CPU : Pentium® 4 3.0 GHz or faster
- Memory : 1 GB or more (512 MB or more is required when using Microsoft® Windows® XP.)
- Monitor : Resolution: 1 024 x 768 pixels or more
  Color: 24-bit True color or better
- Network interface : 10/100/1 000 Mbps Ethernet port x1
- Web Browser : Windows® Internet Explorer® 7.0
  : Microsoft® Internet Explorer® 6.0 SP2*
- Audio interface : Sound card (when using the audio function)
- Other : CD-ROM drive: It is necessary to refer to the operating instructions and use the software on the provided CD-ROM.
  : DirectX® 9.0c or later
  : Adobe® Reader®: It is necessary to refer to the operating instructions on the provided CD-ROM.

* Microsoft® Internet Explorer® 6.0 SP2 is required when using Microsoft® Windows® XP Professional SP2 or Microsoft® Windows® XP Home Edition SP2.

**Important:**

- When using a PC that does not meet the above requirements, displaying of images may become slow or the web browser may become inoperable.
- Audio may not be heard if a sound card is not installed on a PC. Audio may be interrupted depending on the network environment.
- Refer to "Notes on Vista®" (PDF) for further information about system requirements for a PC and precautions when using Microsoft® Windows Vista®.

# Trademarks and Registered Trademarks

- Adobe and Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
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- Other names of companies and products contained in these operating instructions may be trademarks or registered trademarks of their respective owners.

# Restrictions when operating MPEG-4 images

There are following restrictions when "MPEG-4" is selected for the image compression method on the setup menu. ("NW camera" under "Camera")

## 1. When displaying live images

(1) Black screen may be displayed for the first few seconds (*) when the following operations are performed while displaying live images.
- When MPEG-4 live images are displayed (by switching camera channel, etc.)
- When MPEG-4 image is enlarged (or when enlarged MPEG-4 image is resized to the original size)

(2) It may take several seconds (*) for refresh interval of MPEG-4 image when displaying images on a 4-screen.

**Example:** When "3 seconds" is selected for the refresh interval on the camera, MPEG-4 image will be refreshed in 3 seconds intervals.

### 2. When displaying images sequentially

When "MPEG-4" is selected for the image compression method of the camera selected for a camera channel on the setup menu, the respective sequence step will be skipped.

## 3. When playing recorded images

(1) Displayed playback time may be fast for several seconds (*) when the following operations are performed while playing recorded images
- When MPEG-4 recorded images are played (by changing camera channel, etc.)
- When MPEG-4 image is enlarged (or when enlarged MPEG-4 image is resized to the original size)

  (When operating to zoom in/out a paused MPEG-4 recorded image, image of several seconds later than the displayed image may be enlarged.)
- When the [PLAY] button is clicked again while playing MPEG-4 image
- When the first frame is displayed by clicking the [NEXT IMAGE] button during pausing

(2) Playback may be performed in several seconds intervals (*) when the following operations are performed while playing MPEG-4 image. Refer to the Operating Instructions (PDF file) for further information.
- Reverse playback ([REV PLAY])
- Fast playback/fast reverse playback ([FF] / [REW])
- Reverse frame playback ([PREV IMAGE])

**Example:** When "3 seconds" is selected for the refresh interval on the camera, MPEG-4 image will be played in 3 seconds intervals.

(3) When two records are played sequentially, the last few frames of the former record and the first few frames of the next record may be displayed overlapped.

(4) When playing MPEG-4 image by designating time and date, playback may start from a point several seconds before or after the designated time and date or from the first frame of the next record.

### 4. When recording images

(1) Time and date displayed on the recording event list (actual start time of recordings) may not exactly indicate the actual time of recording trigger (event occurrence time, start time of the schedule recording, etc.), and also the recording duration may be shortened for seconds worth two times of the refresh interval set on the camera.

**Example:** When the set recording duration and the set refresh interval of the camera are 10 seconds and 1 second respectively

10 - (1 x 2) = 8 (sec)

The minimum actual recording duration is 8 seconds.

(2) When pre-event recording is set to be performed, pre-event recording duration may be longer than the set duration.

**Example:** Depending on the size of the image data, pre-recording duration may be around 10 seconds even when setting 5 seconds for the pre-event recording duration.

### 5. When copying images

Copying may start from a point several seconds (*) later than the designated start time when copying MPEG-4 images. To copy the desired images for sure, designate start time several seconds earlier than the time when the desired images are recorded, and set time range for copying longer than the refresh interval set on the camera.

### 6. When downloading recorded images

Download of recorded images may start from a point several seconds (*) earlier than the designated start time. Set time range for download longer than the refresh interval set on the camera.

### 7. When transmitting images recorded at an event occurrence to the FTP server

Duration of images to be transmitted to the FTP server, which are recorded at an event occurrence, may not be exactly the same as the duration set for "Duration-Pre" and "Duration-Post". Set "Duration-Pre" and "Duration-Post" longer than the refresh interval set on the camera.

### 8. Other

MPEG-4 images will not be attached to alarm mails.

Even when images are to be transmitted to the FTP server periodically, MPEG-4 images will not be transmitted.

* Time (seconds) differs depending on the refresh interval set on the camera (0.2 - 5 seconds). To shorten time lag, set the refresh interval on the camera shorter. Refer to the operating instructions of the camera for how to configure the refresh interval.

## Setup procedure

The procedure to start operations is shown below.

| | | |
|---|---|---|
| 1 | **Rack Mounting** | Mount the recorder into the rack (refer to the Installation Guide).<br>Go to step 2 if you are not using a rack. |
| 2 | **Connections** | Connect the recorder to the various devices (refer to the Installation Guide). |
| 3 | **Power On** | Turn on the recorder (refer to the Installation Guide).<br>When using extension units, turn on all extension units before turning on the recorder. |
| 4 | **Installing HDDs** | Install the HDDs in the recorder (refer to the Installation Guide).<br>Unformatted HDDs inserted into the recorder are automatically initialized.<br>Also, set the HDD operation mode as necessary. |
| 5 | **Recorder Network Settings** | Set the network for the recorder using the buttons on the front panel (page 11). |
| 6 | **PC Network Settings** | This section explains how to change PC network settings to match the settings of the recorder (page 13). |
| 7 | **Initialize HDDs** | To change HDD area management, display disk configuration and initialize the HDD from the setup menu on the recorder as needed (page 86). |
| 8 | **Camera Network Settings** | Open the NW camera setup menu from the PC and do the network settings (page 48). |
| 9 | **Settings** | Set up functions necessary for operation (page 9). |
| 10 | **Start Operations** | |
| | When necessary ↕ | |
| | **Replace HDDs** | You can change or format HDDs while the recorder is [ON] (refer to the Installation Guide). |

# Setup menu list

You must pre-configure settings from the setup menu when using the recorder. To display the setup menu, click the [Setup] button.

| Setting item | | Description | Page |
|---|---|---|---|
| Quick | | | |
| | Setup | Display a menu with the minimum settings necessary to use the recorder. | page 26 |
| Basic | | | |
| | Basic | Set the basic operations for the recorder. | page 31 |
| | Time & date | Set the time and date. | page 32 |
| Emergency rec. | | | |
| | Emergency rec. | Set the emergency recording duration, rate, audio, etc. | page 34 |
| Event | | | |
| | Basic | Set the basic setting for alarm action. | page 38 |
| | Terminal input | Set the alarm action when an event occurs. | page 39 |
| | Site alarm | Set the alarm action when a Site alarm occurs. | page 40 |
| | Command alarm | Set the alarm action when a Command alarm occurs. | page 41 |
| Schedule | | | |
| | Time table | Configure time table settings to schedule operations for each day of the week, and assign each time table to a program. | page 46 |
| | Program | Create a recording operation program. You can create up to 8 programs.<br>Set recording operations in each program, including the recording rate and audio recording, for each camera channel. | page 42 |
| | Special days | Assign separate time tables for each day of the week for special days. | page 47 |
| Camera | | | |
| | NW camera | Configure camera network settings, including the camera address and port number. | page 48 |
| | Group | Set the group title of a camera. | page 52 |
| | Sequence | Set camera sequence operations. | page 53 |
| Server | | | |
| | NTP | Configure settings, such as the NTP server address, for time adjustment based on the NTP server. | page 55 |
| | FTP | Set the FTP server. Configure to periodically send images from a camera connected to the recorder to a specified FTP server. | page 56 |
| | Mail | Set to send e-mails to registered addresses when an event or an error occurs. | page 58 |
| | Proxy | Set the proxy server.<br>Set On or Off for the proxy server and set the server address. | page 60 |
| Network | | | |
| | Basic | Configure the basic settings for the network. Configure network configuration settings like the IP address, default gateway and DNS server. | page 61 |
| | DDNS | Set the DDNS server.<br>Set On or Off for the DDNS server and set user names. | page 64 |
| | SNMP | Set the SNMP server.<br>Configure these settings when connecting to an SNMP manager and check the status of the recorder. | page 65 |
| | Panasonic alarm protocol | Set to send a message to registered addresses when an event or an error occurs using our original communication method. | page 66 |

| Setting item | | Description | Page |
|---|---|---|---|
| User mng. | | | |
| | Basic | Set whether user and host authentication should be performed. | page 67 |
| | Administrator | Edit registered administrator information such as the administrator name, password, and start monitor. | page 68 |
| | User | Edit or delete registered user information and register uses who can operate the recorder.<br>You can also set the operation level, user name, and password. | page 69 |
| | Host | Edit or delete registered host information and register PCs (hosts) that can access the camera over a network.<br>You can also set the operation level and the IP address of the PC. | page 71 |
| | User level | Set the functions available at each user level. | page 73 |
| Maintenance | | | |
| | Product information | Display the version of the software and hardware, the MAC address, serial number, and the internal temperature of the recorder. | page 75 |
| | Disk information | Displays information about recording, the disk operational mode, disk space capacity, and the recording area. | page 76 |
| | Network information | Display network information such as the camera address set on the recorder and the line speed of the recorder. | page 78 |
| | Disk | Set operations for when the HDD is full and perform deletion of data stored on the HDD. | page 79 |
| | Settings management | Save, load and initialize the content of the setup menu on the recorder. | page 81 |
| Config. | | | |
| | Disk information | Displays information about recording, the disk operational mode, disk space capacity, and the recording area. | page 83 |
| | Encryption | Configure whether to encrypt the data to be recorded and save onto HDD. | page 85 |
| | Format | Format the HDD and assign Event recording areas and Copy areas to the HDD. | page 86 |

# Network settings

## Recorder network settings

This section explains how to configure recorder network settings.

The following are the settings for ports to be used.

Set the parameters using the button on the front panel. Setting parameters are displayed on the LCD.

| Setting item | Description |
|---|---|
| DHCP | Specifies whether a DHCP server is used. Select [On] for this setting to obtain the IP address, subnet mask, and default gateway from a DHCP server. |
| IP address | When DHCP is [Off], specify the IP address. |
| Subnet mask | When DHCP is [Off], specify the IP address. |
| Default gateway | When DHCP is [Off], specify the default gateway subnet mask. |
| HTTP port | Specify the HTTP port number to be used. Normally this setting is 80. |

The following shows the factory default network settings.

| Setting item | Camera port | Client PC port | Maintenance port |
|---|---|---|---|
| DHCP | – | Off | – |
| IP address | 192.168.0.250 | 192.168.1.250 | 192.168.2.250 |
| Subnet mask | 255.255.255.0 | 255.255.255.0 | 255.255.255.0 |
| Default gateway | – | 192.168.1.1 | – |
| HTTP port | – | 80 | – |

**Important:**

- Always configure the network settings for the ports using different subnet mask areas. Using the same subnet mask area may result in improper network communication.

**Note:**

- Settings are not required when the PC network environment is as shown below. You can configure recorder settings and perform operations from a web browser after connecting.

  IP address : 192.168.1.2 to 249, 192.168.1.251 to 254
  Subnet mask : 255.255.255.0
  Gateway : 192.168.1.1

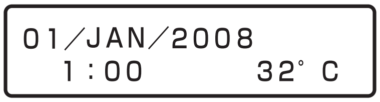
  In an environment with other settings than those shown above, you will need to configure the network settings of the recorder or PC.
- For camera network settings, call up the Camera setup menu. Refer to "NW camera (page 48)" for details about the settings.

# Network settings

The following is the procedure for configuring network settings.

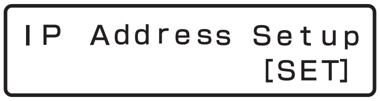
**1** **Make sure that the Date display screen (standby screen) is displayed on the LCD.**

If display is different, press the [ESC] button to display the standby screen.



```
01/JAN/2008
  1:00      32° C
```

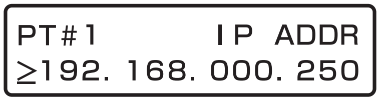
**2** **Use the arrow buttons (up or down) to display the IP address settings screen.**



```
IP Address Setup
           [SET]
```

**3** **Press the [SET] button.**

This will display the [PT#1 IP ADDR] setting screen.



```
PT#1     IP ADDR
≥192. 168. 000. 250
```

**4** **Use the arrow buttons (left or right) to display the network port setting screen.**

- PT#1 : Camera port
- PT#2 : Client PC port
- PT#3 : Maintenance port

**5** **Use the arrow buttons (up or down) to display the screen of the item you want to set.**

- DHCP
- IP address
- Subnet mask
- Default gateway
- HTTP port

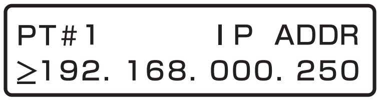
**Note:**

- You can only set the DHCP, the gateway, and the HTTP port to PT#2.

**6** **After confirming that the cursor is [>], press the [SET] button.**

The cursor moves to the number area.

- The cursor is shown as an underscore (_).



```
PT#1     IP ADDR
≥192. 168. 000. 250
```

**7** **Use the arrow buttons to change the setting.**

- To move the cursor : Arrow buttons (left or right)
- To input a value : Arrow buttons (up or down)

**8** **Press the [ESC] button to move the cursor to ">" and check the settings.**

**9** **To configure the setting of another item, use the arrow buttons (up or down) to change the screen.**

**10** **Repeat steps 5 through 8 to configure the settings for each item.**

# PC network settings

This section explains how to match the PC network settings to the settings of the recorder. In order to access the recorder, the IP address of the PC must be set to the same subnet mask area as the recorder client PC port.

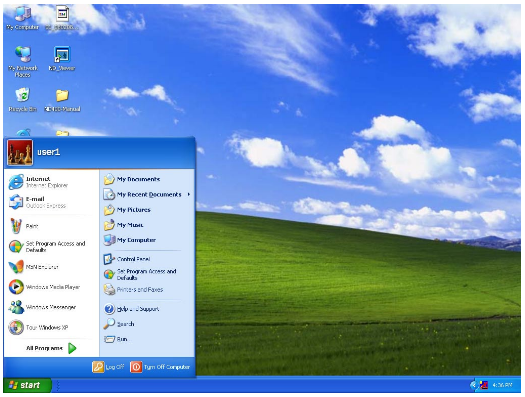
The examples in this manual are presented using the basic settings of Windows XP. If you are using an operating system other than Windows XP, refer to the user documentation of the operating system you are using.

Example:

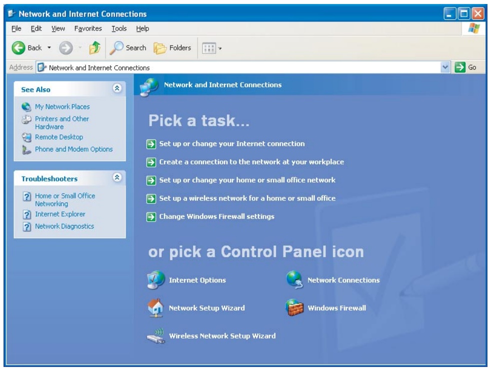
If you are using the recorder's initial default settings (IP address: 192.168.1.250), set the IP address of the PC to; 192.168.1.XXX, where XXX is any value except 250 (which is used by the recorder) from 2 to 254.

**1** **Log in to the PC as an administrator.**

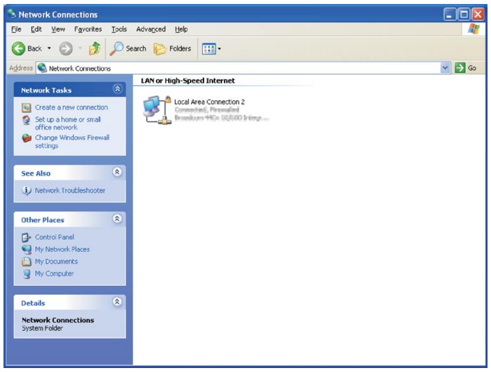
**2** **Click [Start] and then select [Control Panel].**


user1
Internet
E-mail
My Documents
My Recent Documents
My Pictures
My Music
My Computer
Control Panel
Set Program Access and Defaults
Printers and Faxes
Help and Support
Search
Run...
All Programs
Log Off
Turn Off Computer
start

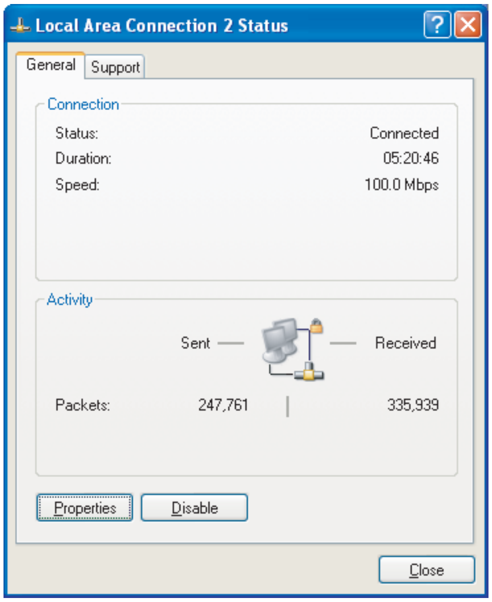
**3** **Click [Network and Internet Connections].**
This will display the [Network and Internet Connections] window.


Network and Internet Connections
File Edit View Favorites Tools Help
Back
Search
Folders
Address
Go
See Also
My Network Places
Printers and Other Hardware
Remote Desktop
Phone and Modem Options
Troubleshooters
Home or Small Office Networking
Internet Explorer
Network Diagnostics
Pick a task...
Set up or change your Internet connection
Create a connection to the network at your workplace
Set up or change your home or small office network
Set up a wireless network for a home or small office
Change Windows Firewall settings
or pick a Control Panel icon
Internet Options
Network Connections
Network Setup Wizard
Windows Firewall
Wireless Network Setup Wizard

**4** **Click [Network Connections].**
This will display the [Network Connections] window.

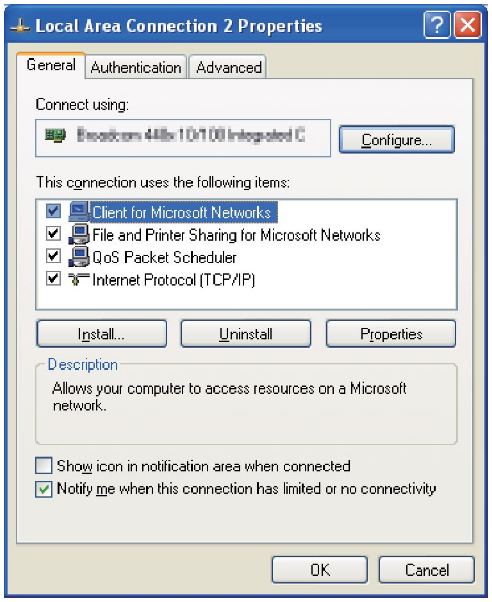

Network Connections
File Edit View Favorites Tools Advanced Help
Back
Search
Folders
Address
Go
Network Tasks
Create a new connection
Set up a home or small office network
Change Windows Firewall settings
See Also
Network Troubleshooter
Other Places
Control Panel
My Network Places
My Documents
My Computer
Details
Network Connections
System Folder
LAN or High-Speed Internet
Local Area Connection 2

**5** **Double click [Local Area Connection].**
This will display the [Local Area Connection Status] window.


Local Area Connection 2 Status
General
Support
Connection
Activity
Sent
Received
Properties
Disable
Close

Status: Connected
Duration: 05:20:46
Speed: 100.0 Mbps
Packets: 247,761 | 335,939

**6** **Click [Properties].**
This will display the [Local Area Connection Properties] window.


Local Area Connection 2 Properties
General
Authentication
Advanced
Configure...
Install...
Uninstall
Properties
Description
OK
Cancel

Connect using:

This connection uses the following items:

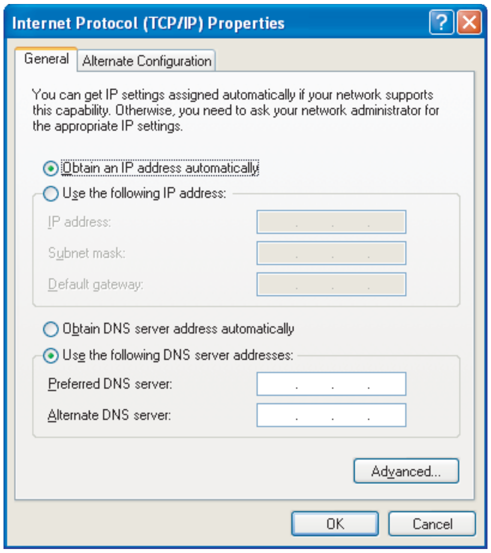
☑ Client for Microsoft Networks
☑ File and Printer Sharing for Microsoft Networks
☑ QoS Packet Scheduler
☑ Internet Protocol (TCP/IP)

Allows your computer to access resources on a Microsoft network.

☐ Show icon in notification area when connected
☑ Notify me when this connection has limited or no connectivity

**7** **Click [Internet Protocol (TCP/IP)] and then click [Properties].**

This will display the [Internet Protocol (TCP/IP) Properties] window.



Internet Protocol (TCP/IP) Properties

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

● Obtain an IP address automatically

○ Use the following IP address:

IP address: . . .

Subnet mask: . . .

Default gateway: . . .

○ Obtain DNS server address automatically

● Use the following DNS server addresses:

Preferred DNS server: . . .

Alternate DNS server: . . .

**8** **Click [Use the following IP address] and then configure the IP address and subnet mask.**

- For the IP address, set the same subnet mask area as the recorder.
- Depending on the network configuration, the default gateway setting is required. For details about settings, refer to your network administrator.

**9** **Click the [OK] button to close the window.**

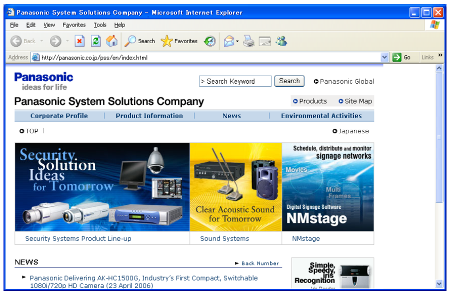
# About operating windows

## Display and close the operating window

Operate the recorder from a web browser on a PC.

**1** **Start the PC.**

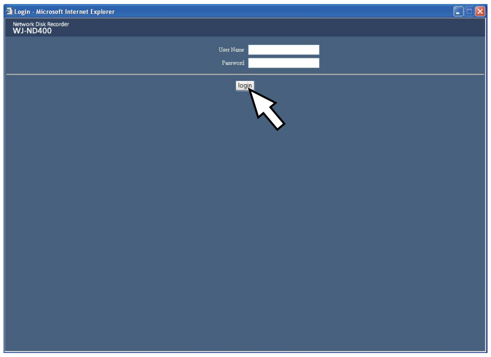
**2** **Launch the web browser.**


Panasonic System Solutions Company - Microsoft Internet Explorer
Panasonic
ideas for life
Panasonic System Solutions Company
Corporate Profile
Product Information
News
Environmental Activities
Security Solution Ideas for Tomorrow
Clear Acoustic Sound for Tomorrow
NMstage
NEWS

**3** **Enter the URL or IP address set for the recorder into the address box and press the [Enter] key.**

The authentication window is displayed.

- If [User authentication] is [Off], the authentication window does not open (page 67).

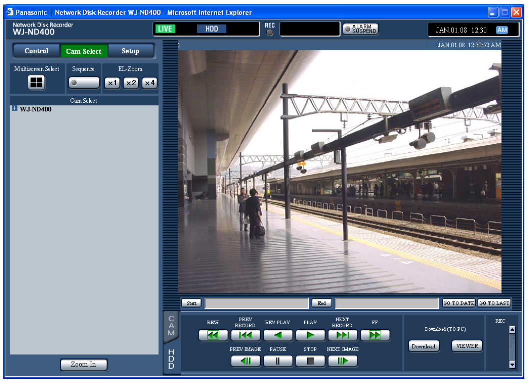

Login - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
User Name
Password
login

**Important:**

- Refer to your system administrator for the IP address settings.
- If the [Host authentication] is [On] (page 71), only PCs that have an IP address that is registered with the recorder can connect to the recorder.
  For more information, contact your system administrator.
- Do not enter "0" on the front of the IP address when inputting it.
  Example:
  OK: 192.168.0.50
  NG: 192.168.0.050
- Refer to page 96 if a message appears in the information bar.

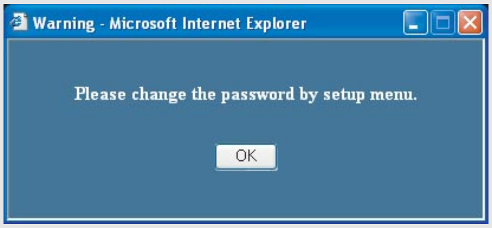
**4** **Enter a "User name" and "Password" that is registered with the recorder, and click the [Login] button.**

The top page is displayed.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
LIVE
HDD
REC
Control
Cam Select
Setup
Multiscreen Select
Sequence
EL-Zoom
x1
x2
x4
Cam Select
WJ-ND400
Zoom In
REW
PREV RECORD
REV PLAY
PLAY
NEXT RECORD
FF
PREV IMAGE
PAUSE
STOP
NEXT IMAGE
Download (TO PC)
Download
VIEWER
GO TO DATE
GO TO LAST

**Important:**

- Refer to your system administrator for the user name and password set for you.
  Refer to "Users (page 69)" for information about user registration.
- The default user name and password settings are shown below.
  User name: ADMIN
  Password: 12345
- To ensure security, change the ADMIN password before starting operations. Also, change the password periodically. Refer to page 69 for information about changing passwords.
- When the unit is being operated without changing the default administrator name and password, the pop-up window saying that it is recommended to change the password will be displayed.


Warning - Microsoft Internet Explorer
OK

Please change the password by setup menu.

**5** **Click the buttons and tabs to set up operations.**

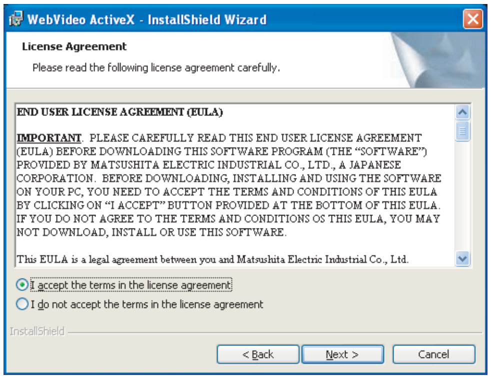
**Important:**

- Refer to page 96 if a message appears in the information bar.

---

**Note:**

- The first time the recorder's top page is displayed on a PC the wizard for installing ActiveX, which must be installed to view images, is displayed. Follow the on-screen instructions.


WebVideo ActiveX - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.

**END USER LICENSE AGREEMENT (EULA)**

**IMPORTANT**. PLEASE CAREFULLY READ THIS END USER LICENSE AGREEMENT (EULA) BEFORE DOWNLOADING THIS SOFTWARE PROGRAM (THE "SOFTWARE") PROVIDED BY MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD., A JAPANESE CORPORATION. BEFORE DOWNLOADING, INSTALLING AND USING THE SOFTWARE ON YOUR PC, YOU NEED TO ACCEPT THE TERMS AND CONDITIONS OF THIS EULA BY CLICKING ON "I ACCEPT" BUTTON PROVIDED AT THE BOTTOM OF THIS EULA. IF YOU DO NOT AGREE TO THE TERMS AND CONDITIONS OS THIS EULA, YOU MAY NOT DOWNLOAD, INSTALL OR USE THIS SOFTWARE.

This EULA is a legal agreement between you and Matsushita Electric Industrial Co., Ltd.

● I accept the terms in the license agreement
○ I do not accept the terms in the license agreement

- If WJ-ND200/WJ-ND300 ActiveX is already installed, delete WebVideo ActiveX using Add or Remove Programs and then install WJ-ND400 ActiveX.
- When the install wizard is displayed again even after completing the installation of the ActiveX, restart the PC.

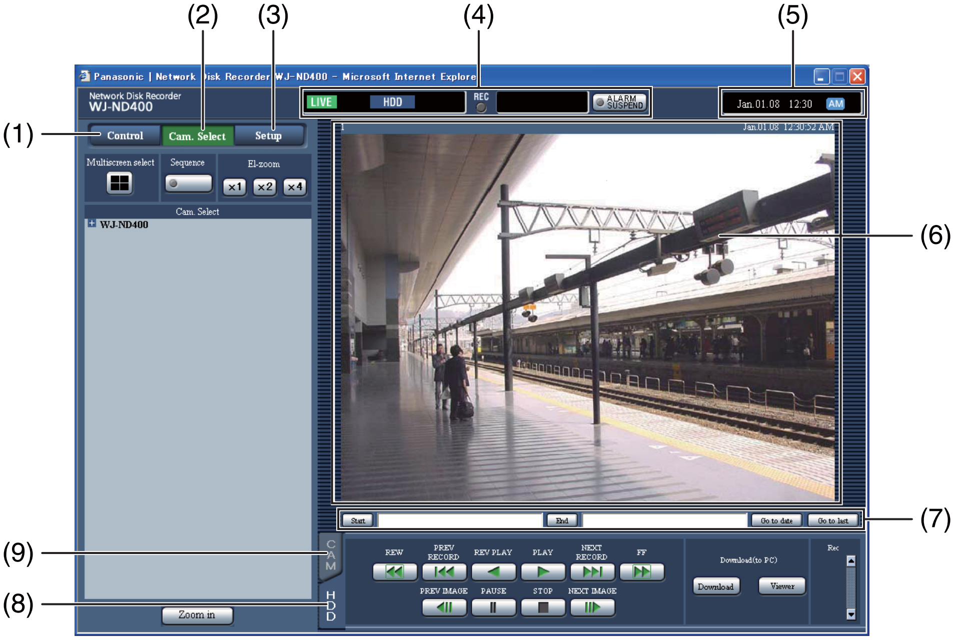
---

**6** **Close the web browser after operations and settings are finished.**

Follow the on-screen instructions for setting and ending functions.

# Names and functions of components

## Top page


(2)
(3)
(4)
(5)
(1)
(6)
(7)
(9)
(8)
Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
LIVE
HDD
REC
ALARM SUSPEND
Jan.01.08 12:30 AM
Control
Cam. Select
Setup
Multiscreen select
Sequence
El-zoom
×1
×2
×4
Cam. Select
WJ-ND400
Jan.01.08 12:30:52 AM
Start
End
Go to date
Go to last
CAM
HDD
REW
PREV RECORD
REV PLAY
PLAY
NEXT RECORD
FF
PREV IMAGE
PAUSE
STOP
NEXT IMAGE
Download(to PC)
Download
Viewer
Rec
Zoom in

**(1) [Control] button (page 18)**
Performs operations such as searching for recorded images. You can also perform the functions of the camera picture switcher such as changing the display of camera live pictures to multiscreen or sequential display.

**(2) [Cam. select] button (page 19)**
The switcher functions such as switching camera channels are operable on this page.

**(3) [Setup] button (page 20)**
Sets up the recorder.

**(4) Status display area (page 21)**
Displays the recorder's status, such as the recording and playback status.

**(5) Current time display area**
Displays the current time.

**(6) Image display**
Displays live and recorded images. Displays the camera title in the upper left and the date/time in the upper right (current for live, recorded for recorded images). Click the camera title when viewing multiscreen to view the clicked image on a single screen.

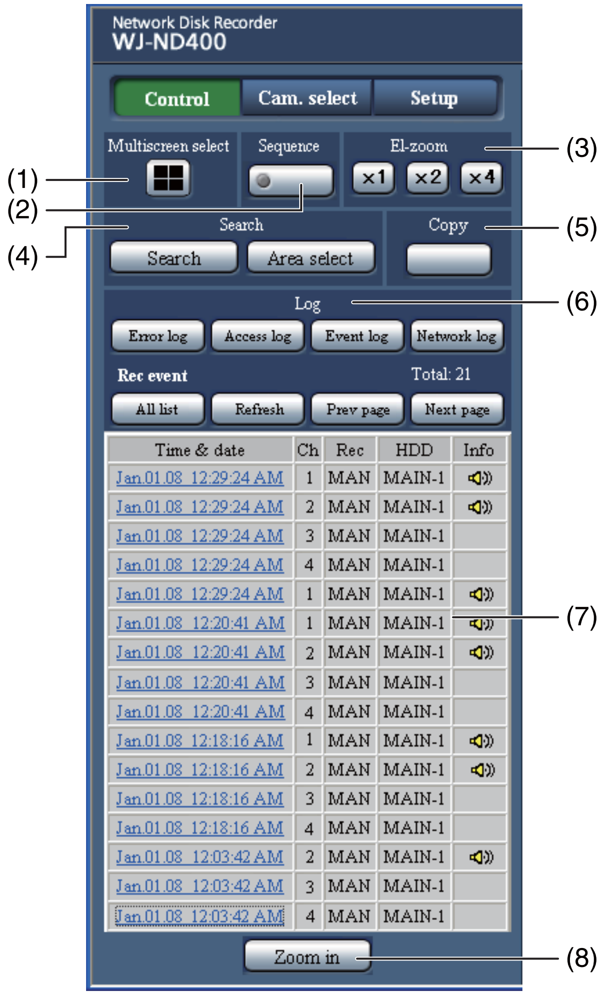
**(7) Playback point operation area (page 22)**
Specify the playback position or skip to the latest images.

**(8) [HDD] tab (page 22)**
Controls recorded images, such as playing images or downloading to save to a PC.

**(9) [CAM] tab (page 24)**
Controls the cameras' zoom, focus, and automatic functions.

## [Control] button

The following operation panel appears when you click the [Control] button.



| Time & date | Ch | Rec | HDD | Info |
|---|---|---|---|---|
| Jan.01.08 12:29:24 AM | 1 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:29:24 AM | 2 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:29:24 AM | 3 | MAN | MAIN-1 | |
| Jan.01.08 12:29:24 AM | 4 | MAN | MAIN-1 | |
| Jan.01.08 12:29:24 AM | 1 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:20:41 AM | 1 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:20:41 AM | 2 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:20:41 AM | 3 | MAN | MAIN-1 | |
| Jan.01.08 12:20:41 AM | 4 | MAN | MAIN-1 | |
| Jan.01.08 12:18:16 AM | 1 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:18:16 AM | 2 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:18:16 AM | 3 | MAN | MAIN-1 | |
| Jan.01.08 12:18:16 AM | 4 | MAN | MAIN-1 | |
| Jan.01.08 12:03:42 AM | 2 | MAN | MAIN-1 | 🔊 |
| Jan.01.08 12:03:42 AM | 3 | MAN | MAIN-1 | |
| Jan.01.08 12:03:42 AM | 4 | MAN | MAIN-1 | |

### (1) [Multiscreen select] box

Displays multiple images from up to 4 cameras at the same time. Switches between the four screens with each clicking the button following the preset camera combination (page 50).

### (2) [Sequence] box

Switches the camera images automatically in a preset sequence. The button indicator lights green during sequence (page 53).

### (3) [El-zoom] box

Displays the camera image at the magnification of the button clicked.

| | |
|---|---|
| ×1 | : 1x |
| ×2 | : 2x |
| ×4 | : 4x |

### (4) [Search] box

#### [Search] button

Searches for recorded images. The search results are shown on the rec event list window. (refer to the Operating Instructions (PDF file))

#### [Area select] button

Selects disk to play or search. (refer to the Operating Instructions (PDF file))

### (5) [Copy] box

Copies recorded images into the copy area of the HDD.

### (6) [Log] box

The history is shown on the rec event list window.

#### [Error log] button

Displays a log of the errors that occur.

#### [Access log] button

Displays the log in/log out time and date, the user name or IP address.

#### [Event log] button

Displays the event log (when it occurred and a description).

#### [Network log] button

Displays a log of the problems that occur on the network.

### (7) Rec event list

#### Number of events

Displays the total number of events in a list. If there are more than 10 000 events, [>10000] is displayed.

#### [All list] button

Removes any conditions and all rec events are listed.

#### [Refresh] button

Updates the display to the most recent status.

#### [Prev page] button

Displays the previous page of the list.

#### [Next page] button

Displays the next page of the list.

#### [Time & date]

Displays the time and date.

#### [Ch]

Displays the channel of the recorded data.

#### [Rec]

Displays the recording mode (refer to the Operating Instructions (PDF file)).

#### [HDD]

Displays the number of the disk where data is stored.

#### [Info]

An icon is displayed on the image when audio is available.

### (8) [Zoom in] button

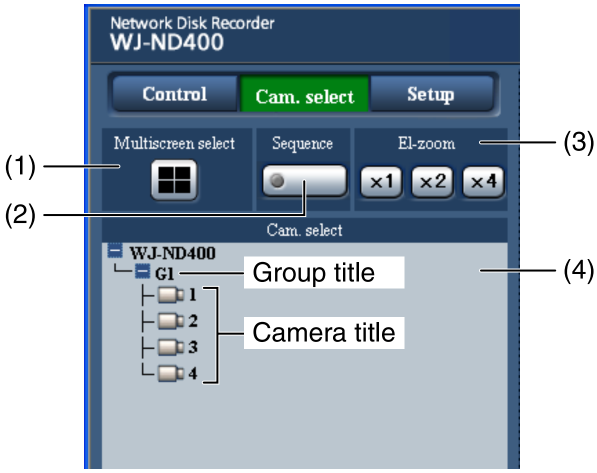
Enlarges the display of live and recorded images.

**Note:**

- The rec event list is displayed when the [Refresh] button is pressed, or when searching or when selecting an area.
  Refer to the Operating Instructions (PDF file) for information about searching and selecting an area.
- The [All list] button is disabled during playback. Stop playback and then do the search operation.
- When there are many cameras, the recording start time may vary for each channel.

## [Cam. select] button

The following operation panel appears when you click the [Cam. select] button.


Network Disk Recorder
WJ-ND400
Control
Cam. select
Setup
Multiscreen select
Sequence
El-zoom
×1
×2
×4
Cam. select
WJ-ND400
G1
1
2
3
4
Group title
Camera title
(1)
(2)
(3)
(4)

### (1) [Multiscreen select] box

Displays multiple images from up to 4 cameras at the same time. Switches between the four screens by each clicking the button following the preset camera combination (page 50).

### (2) [Sequence] box

Switches the camera images automatically in a preset sequence. The button indicator lights green during sequence (page 53).

### (3) [El-zoom] box

Displays the camera image at the magnification of the button clicked.

×1 : 1x
×2 : 2x
×4 : 4x

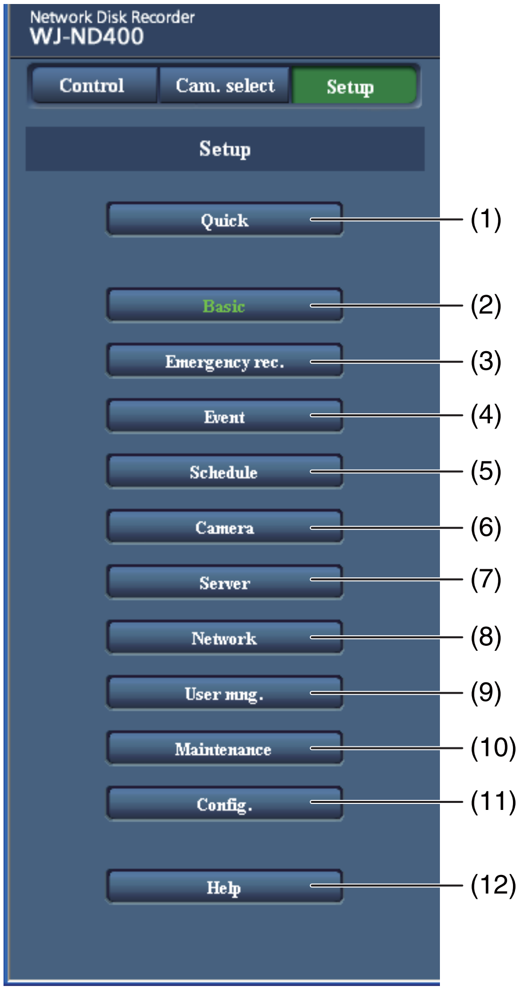
### (4) [Cam. select] box

Displays the group titles of the cameras connected to the recorder when clicking [WJ-ND400]. Refer to page 52 for information about group settings.

Displays the cameras the belong to that group when clicking a group title. Displays the image of camera when clicking a camera title on 1-screen.

## [Setup] button

The following operation panel appears when you click the [Setup] button.


Network Disk Recorder
WJ-ND400
Control
Cam. select
Setup
Setup
Quick
(1)
Basic
(2)
Emergency rec.
(3)
Event
(4)
Schedule
(5)
Camera
(6)
Server
(7)
Network
(8)
User mng.
(9)
Maintenance
(10)
Config.
(11)
Help
(12)

### (1) [Quick] button

Displays a menu with the minimum settings necessary to operate the recorder.

### (2) [Basic] button

Displays a menu for system and date/time settings necessary for basic operations of the recorder.

### (3) [Emergency rec.] button

Displays a menu for emergency recording settings.

### (4) [Event] button

Displays a menu for setting the operations for the occurrence of each type of event (site alarm, terminal alarm, command alarm).

### (5) [Schedule] button

Displays a menu for setting recording/event action for specified days and times.

### (6) [Camera] button

Displays a menu for setting the network, group, and sequence of cameras.

### (7) [Server] button

Displays a menu for setting the server.

### (8) [Network] button

Displays a menu for setting the network.

### (9) [User mng.] button

Displays a menu for setting authentication.

### (10) [Maintenance] button

Displays a menu for setting HDDs.

### (11) [Config.] button

Displays a menu for disk information, data encryption settings, and formatting disks.

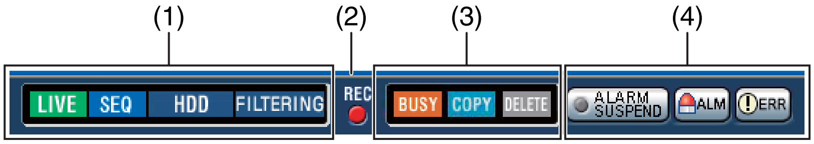
**Important:**

- When settings are activated, all logged in users log out.

### (12) [Help] button

Displays the Help window.

## Status display area



### (1) Displays the status of live and playback images.

| | |
|---|---|
| LIVE | : Live images are being displayed. |
| ▶ | : Recorded images are being played back. |
| ◀ | : Images are being played back reversely. |
| ▶▶ | : Images are being played back at fast forward. |
| ◀◀ | : Images are being played back reversely at fast forward. |
| II | : Playback is paused. |
| DL | : Recorded images and audio are being downloaded. |
| END | : Recorded images and audio have been downloaded. |

[Step 1] to [Step 7]

: The playback speed is displayed.

| | |
|---|---|
| Step 1 | : 1x |
| Step 2 | : Approx. 4x |
| Step 3 | : Approx. 8x |
| Step 4 | : Approx. 16x |
| Step 5 | : Approx. 32x |
| Step 6 | : Approx. 48x |
| Step 7 | : Approx. 96x |

| | |
|---|---|
| SEQ | : The sequence is being activated. |
| HDD | : Normal recording area or event recording area of the HDD on the recorder is selected. |
| HDD COPY | : HDD copy area is selected. |
| SD ▶ HDD | : SD memory data is currently being obtained. |
| RECOVER | : RAID is being recovered. |
| FILTERING | : Rec event list is filtered. For details on filtering of recording event searches, refer to the Operating Instructions (PDF File). |

### (2) [REC] indicator

Displays the recording status.

| | |
|---|---|
| REC ● | : Recording is being performed. |
| REC ● | : Recording is not being performed. |

### (3) Display the following statuses.

| | |
|---|---|
| BUSY | : Camera cannot be operated because a user with a higher priority is using the camera. |
| COPY | : Copying is being performed. |
| DELETE | : Image data is being deleted. |

### (4) Information about the events and errors is displayed.

### "Alarm suspend [ALARM SUSPEND]" button

| | |
|---|---|
| ● ALARM SUSPEND | : Clicking this button to temporarily disable alarm detection. (refer to the Operating Instructions (PDF file)) |
| ● ALARM SUSPEND | : This indication will be displayed while an alarm is being suspended. |

### "Alarm [ALM]" button

| | |
|---|---|
| ALM | : Displays when an event occurs. Clicking this button clears the alarm action. (refer to the Operating Instructions (PDF file)) |

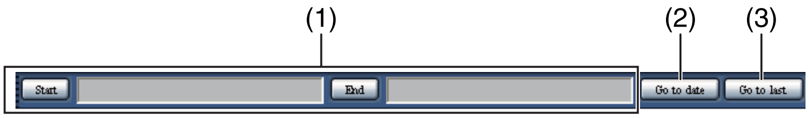
### "Error [ERR]" button

| | |
|---|---|
| ERR | : An error has occurred. Clicking this button clears the error occurrence. Refer to the Operating Instructions (PDF file) for further information about errors. |

**Note:**

- Emergency recording does not stop even if you click the "Alarm [ALM]" button while recording. However, recording does stop if the recording time is set to [Continue] for emergency recording.

## Playback point operation area



### (1) Displays the time and date for the download start point/ending point.

| | |
|---|---|
| [Start] | : Set the time and date to start the image to be downloaded. |
| [End] | : Set the time and date to end the image to be downloaded. |

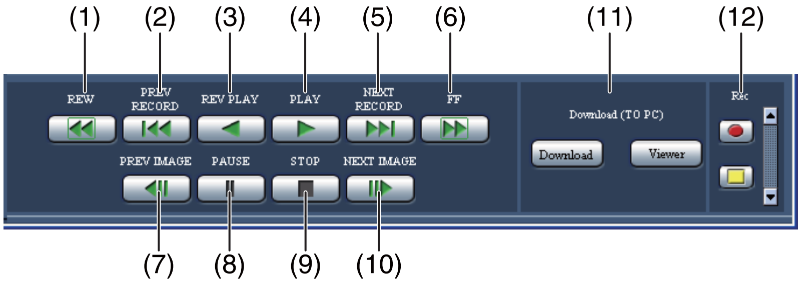
### (2) [Go to date] button

Used to playback images from a specified time and date.

### (3) [Go to last] button

Skips to the latest recorded image on the displayed camera channel and starts playback.

## [HDD] tab



### (1) [REW] button

Plays recorded images reversely at high speed.

Each time the button is clicked, the reverse speed changes Step 2 (4x) > Step 3 (8x) > Step 4 (16x) > Step 5 (32x) > Step 6 (48x) > Step 7 (96x).

### (2) [PREV RECORD] button

Skips backward to play back recorded images.

### (3) [REV PLAY] button

Plays recorded images in reverse.

### (4) [PLAY] button

Plays recorded images.

### (5) [NEXT RECORD] button

Skips forward to play back recorded images.

### (6) [FF] button

Plays recorded images at high speed.

Each time the button is clicked, the speed changes Step 2 (4x) > Step 3 (8x) > Step 4 (16x) > Step 5 (32x) > Step 6 (48x) > Step 7 (96x).

### (7) [PREV IMAGE] button

Clicking during playback or pause plays back one frame at a time reversely, and then pauses.

### (8) [PAUSE] button

Clicking during playback pauses playback.

Clicking during pause restarts playback.

### (9) [STOP] button

Stops playback and displays live images from the camera.

### (10) [NEXT IMAGE] button

Clicking during playback or pause plays back one frame at a time forward and then pauses.

### (11) [Download (TO PC)] box

Downloads the image being played to the PC.

| | |
|---|---|
| [Download] | : Images and audio can be downloaded. |
| [Viewer] | : Downloads viewer software for playing back downloaded images. |

### (12) [Rec] box

Click [Up] button to display the [Recording] and [Recording stop] buttons.

Click [Down] button to hide the [Recording] and [Recording stop] buttons.

| | | |
|---|---|---|
| ● | [Recording] button | : Starts recording manually. |
| ■ | [Recording stop] button | : Stops recording manually. |

**Important:**

- When displaying the [Recording] or [Recording stop] buttons, click and hold [Up] button until displayed.

**Note:**

- The operations are as follows when the image for playback is an MPEG-4 image.

Date/Time Search : Playback may start a few seconds before or after the specified time.

Reverse Playback : Not all recorded images are displayed. Reverse playback is performed at the refresh rate set for the camera at the time of recording.

Playback During Playback : Performing the playback operations again during playback skips ahead a few seconds.

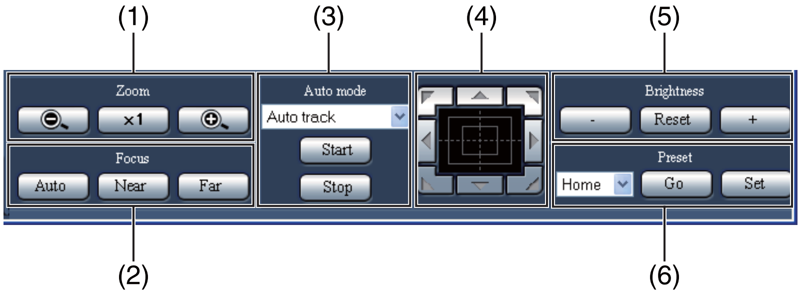
Single Frame Reverse : Not all recorded images are displayed. Single frame reverse is performed at the refresh rate set for the camera at the time of recording.

Fast Forward/Fast Reverse : Not all recorded images are displayed. Fast forward and fast reverse are performed at the refresh rate set for the camera at the time of recording.

Downloading Images During Playback : Image may be saved including a few seconds before the starting time and date and a few seconds after the ending time and date.

## [CAM] tab

The camera can be controlled (pan/tilt, zoom, focus, brightness, preset, auto mode) when the live image is from a camera that can pan and tilt. Some camera operations cannot be done depending on the type of camera connected.



### (1) [Zoom] box

Click [-] or [+] to adjust the zoom. Click [x1] to return the zoom to normal.

### (2) [Focus] box

Click [Near] or [Far] to adjust the image focus.

Click [Auto] to adjust the focus automatically (auto focus).

### (3) [Auto mode] box

Select the camera's auto mode function. Click [V] and select an auto mode function (auto track, auto pan, preset sequence, sort, patrol), and then click [Start]. Click [Stop] to turn off the auto mode function.

### (4) Control pad/buttons

Click the buttons on the control pad to move the camera to the direction of the button (pan/tilt). Also, click in the control pad to adjust the horizontal/vertical position (pan/tilt) of the image. The pan/tilt movement increases if a clicked point gets farther from the center point of the control pad.

### (5) [Brightness] box

Click [-] (Dark) or [+] (Bright) to adjust the lens iris (brightness).

Click [Reset] to reset the brightness.

### (6) [Preset] box

#### [Go] button

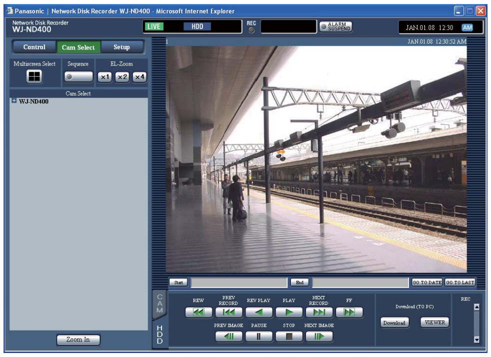
The camera moves to the pre-registered preset position. Click [V], select a preset number ([Home], 1 to 256), and then click [Go]. To perform the preset operation, register the camera's preset positions in advance.

#### [Set] button

Register preset positions that specify the direction of the camera. Move the camera to the direction to register, click [V], select a preset number (1 to 256), and then click [Set] ([Home] cannot be registered.).

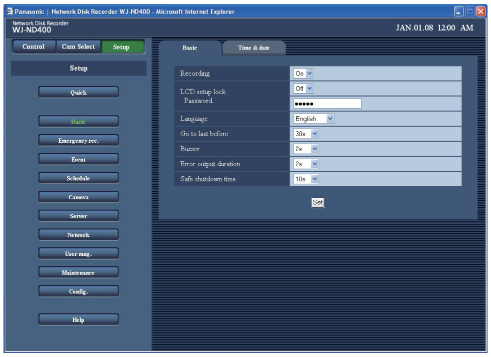
## Basic operations

**1** **Display the top page and access the recorder.**


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
LIVE
HDD
REC
ALARM SUSPEND
JAN.01.08 12:30 AM
Control
Cam Select
Setup
Multiscreen Select
Sequence
EL-Zoom
×1
×2
×4
Cam Select
WJ-ND400
JAN.01.08 12:30:52 AM
Start
End
GO TO DATE
GO TO LAST
CAM
HDD
REW
PREV RECORD
REV PLAY
PLAY
NEXT RECORD
FF
PREV IMAGE
PAUSE
STOP
NEXT IMAGE
Download (TO PC)
Download
VIEWER
REC
Zoom In

**2** **Click the [Setup] button.**

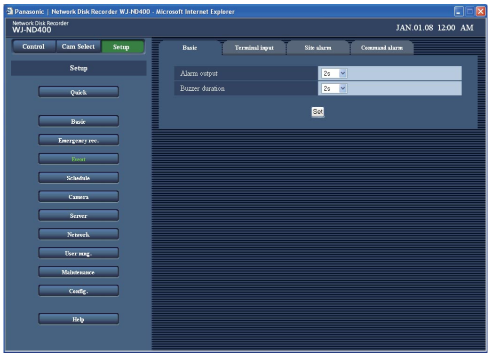
The Setup menu button is displayed.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Basic
Time & date
Set

Recording: On
LCD setup lock: Off
Password: •••••
Language: English
Go to last before: 30s
Buzzer: 2s
Error output duration: 2s
Safe shutdown time: 10s

**3** **Click the setup menu button to configure.**

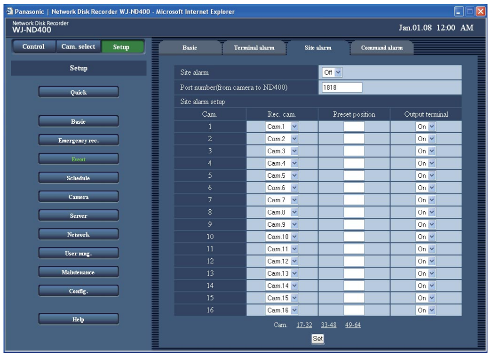
The sub menu tab of the selected setup menu is displayed.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Basic
Terminal input
Site alarm
Command alarm
Set

Alarm output: 2s
Buzzer duration: 2s

**4** **Click the sub menu tab to configure.**

The settings for the selected sub menu on the window is displayed.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Basic
Terminal alarm
Site alarm
Command alarm
Cam. 17-32 33-48 49-64
Set

Site alarm: Off
Port number(from camera to ND400): 1818
Site alarm setup

| Cam. | Rec. cam. | Preset position | Output terminal |
|---|---|---|---|
| 1 | Cam.1 | | On |
| 2 | Cam.2 | | On |
| 3 | Cam.3 | | On |
| 4 | Cam.4 | | On |
| 5 | Cam.5 | | On |
| 6 | Cam.6 | | On |
| 7 | Cam.7 | | On |
| 8 | Cam.8 | | On |
| 9 | Cam.9 | | On |
| 10 | Cam.10 | | On |
| 11 | Cam.11 | | On |
| 12 | Cam.12 | | On |
| 13 | Cam.13 | | On |
| 14 | Cam.14 | | On |
| 15 | Cam.15 | | On |
| 16 | Cam.16 | | On |

**5** **Configure the settings for each item.**

**6** **Click the [Set] button after configuring the settings.**

The settings are reflected on the recorder.

- The changes are canceled if you move to another page without clicking the [Set] button.

**Important:**

- Activating the settings forcibly logs out any other users currently logged in to the recorder.
- Changing the user management settings forcibly logs out all users.
- Recording may not be possible for about four seconds immediately after the settings are saved.
- The setup menu can be used by only one user. The setup menu does not open if another user is using it.
- If you click on the [x] to close the web browser while moving to the setup menu, the setup menu cannot be accessed for about 90 seconds. If you click on the setup menu button, a message appears indicating another user is configuring settings.

# Quick settings

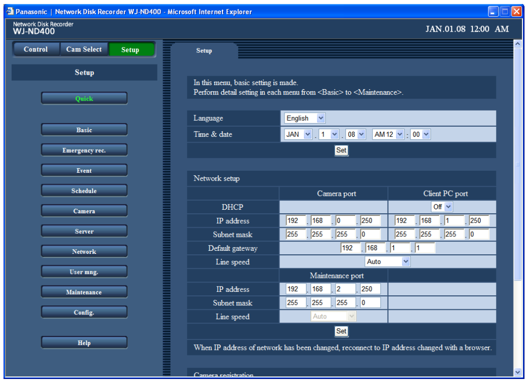
Configure the language, time & date, network setup, camera registration, and the minimum required settings to operate the recorder.

## Settings

### Language, and time & date settings

This section explains how to configure settings for the display language, and the current time and date.

**1** **Click the [Quick] button on the setup menu.**
This will display the setting window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Setup
Set
Set
Camera registration

In this menu, basic setting is made.
Perform detail setting in each menu from <Basic> to <Maintenance>.

Language: English
Time & date: JAN . 1 . 08 AM 12 : 00

Network setup

| | Camera port | Client PC port |
|---|---|---|
| DHCP | | Off |
| IP address | 192 . 168 . 0 . 250 | 192 . 168 . 1 . 250 |
| Subnet mask | 255 . 255 . 255 . 0 | 255 . 255 . 255 . 0 |
| Default gateway | 192 . 168 . 1 . 1 | |
| Line speed | Auto | |
| | Maintenance port | |
| IP address | 192 . 168 . 2 . 250 | |
| Subnet mask | 255 . 255 . 255 . 0 | |
| Line speed | Auto | |

When IP address of network has been changed, reconnect to IP address changed with a browser.

**2** **Configure the settings for each item.**
Refer to “Quick settings 1” table for details about the settings.

**3** **Under [Time & date], click the [Set] button.**

**Important:**
- For around 4 seconds after changing the time and date, for example, when switching to summer time or when setting the time and date, the live image display will turn black and recording may not be possible.

---

**Note:**
- If there is no camera set up, the [Quick] window appears.
- There are one item for language and Time & date, one item for network settings, one item for Camera registration, and one item for Program setup. When you make the settings, click the [Set] button and apply the settings to the recorder.

---

#### Quick settings 1

| Item | Settings | Description |
|---|---|---|
| Language | Japanese / English♦ / Français / Español / Deutsch / Italiano / Russian / Chinese | Specifies the language used in browser screens. |
| Time & date | 08 to 34 (Year) / Jan to Dec (Month) / 1 to 31 (Day) / 0 to 23 (hour) / 0 to 59 (minute) | For setting the current time and date.<br>Configure the setting as year / month / day / hour / minute |

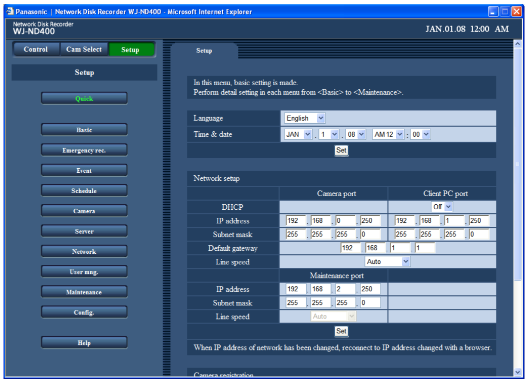
♦Initial default

## Network setup

This section explains how to configure recorder network settings.

**1** **Click the [Quick] button on the setup menu.**

This will display the setting window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Setup
Set
Set
Camera registration

In this menu, basic setting is made.
Perform detail setting in each menu from <Basic> to <Maintenance>.

Language: English
Time & date: JAN . 1 . 08 AM 12 : 00

Network setup

| | Camera port | Client PC port |
|---|---|---|
| DHCP | | Off |
| IP address | 192 . 168 . 0 . 250 | 192 . 168 . 1 . 250 |
| Subnet mask | 255 . 255 . 255 . 0 | 255 . 255 . 255 . 0 |
| Default gateway | 192 . 168 . 1 . 1 | |
| Line speed | Auto | |
| | Maintenance port | |
| IP address | 192 . 168 . 2 . 250 | |
| Subnet mask | 255 . 255 . 255 . 0 | |
| Line speed | Auto | |

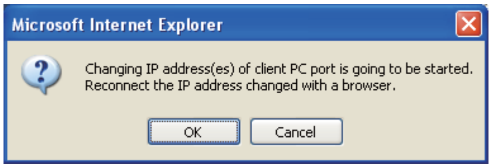
When IP address of network has been changed, reconnect to IP address changed with a browser.

**2** **Configure the settings for each item.**

Refer to “Quick settings 2” table for details about the settings.

**3** **Under the "Network setup" item, click the [Set] button**

When you change the Client PC port IP address, the "Change IP Address" window will appear. Click [OK] to complete the process.


Microsoft Internet Explorer
OK
Cancel

Changing IP address(es) of client PC port is going to be started.
Reconnect the IP address changed with a browser.

**Note:**

- Changing the "Client PC port" IP address causes all connected users to be forcibly logged out. Reconnect with the new IP address.
- The recorder reboots after changing the line speed settings and pressing [Set].

### Quick settings 2

| Item | Settings | Description |
|---|---|---|
| Network setup- Camera port/Client PC port | | |
| DHCP | Off♦ / On | Specifies whether a DHCP server is used.<br>Select [On] to obtain the IP address, subnet mask, and default gateway from a DHCP server. Select [Off] to enter these addresses manually. |
| IP address | Address input[*1] | When [DHCP] is [Off], specify the IP address here. |
| Subnet mask | Address input[*1] | When [DHCP] is [Off], specify the subnet mask here. |
| Default gateway | Address input[*1] | When [DHCP] is [Off], specify the default gateway here. |
| Line speed | Auto♦ / 1000M-Full / 100M-Full / 100M-Half / 10M-Full / 10M-Half | Specifies the data line speed. |
| Network setup - Maintenance port | | |
| IP address | Address input[*1] | Specifies the IP address. |
| Subnet mask | Address input[*1] | Specifies the subnet mask. |

♦Initial default

[*1] Refer to "Recorder network settings (page 11)" for information on initial default settings.

**Important:**

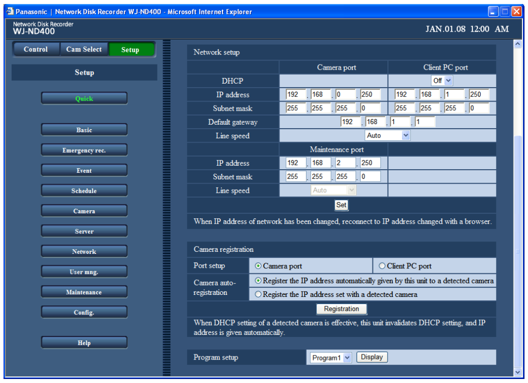
- A different subnet should be set for each port.
- When DHCP is set to [On] and "SD memory rec." is set, an error may occur in the process of startup of the unit when a request to write onto the SD memory card is made. This occurs when the response from the DHCP server is slow. Once the address has been obtained from the DHCP server, the error is resolved.

## Camera registration

This section explains how to register a camera on the recorder. The recorder supports registration of up to 64 cameras.

**1** **Click the [Quick] button on the setup menu.**

This will display the setup window.



Network setup

| | Camera port | Client PC port |
|---|---|---|
| DHCP | | Off |
| IP address | 192.168.0.250 | 192.168.1.250 |
| Subnet mask | 255.255.255.0 | 255.255.255.0 |
| Default gateway | 192.168.1.1 | |
| Line speed | Auto | |
| | Maintenance port | |
| IP address | 192.168.2.250 | |
| Subnet mask | 255.255.255.0 | |
| Line speed | Auto | |

Set

When IP address of network has been changed, reconnect to IP address changed with a browser.

Camera registration

Port setup: ● Camera port ○ Client PC port

Camera auto-registration:
● Register the IP address automatically given by this unit to a detected camera
○ Register the IP address set with a detected camera

Registration

When DHCP setting of a detected camera is effective, this unit invalidates DHCP setting, and IP address is given automatically.

Program setup: Program1 Display

**2** **Select the network port for detecting cameras from the following.**

[Camera port] / [Client PC port]

**3** **Use the Camera auto-registration item to specify whether to assign an IP address to the detected camera.**

[Register the IP address automatically given by this unit to a detected camera]

[Register the IP address set with a detected camera]

---

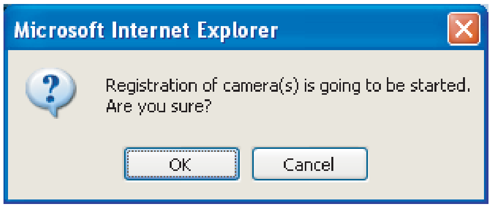
**Note:**

- After executing [Register the IP address automatically given by this unit to a detected camera], the recorder will automatically detect blank IP addresses for setting, but depending on the network environment, the IP address may be already used for the other network device (when the Windows XP firewall function is being used, for example). If the same IP address is used by another device, check the IP address setting and change it manually.
- When [Register the IP address automatically given by this unit to a detected camera] is executed and [On] is selected for the DHCP setting of the detected camera, the recorder will change the DHCP setting to [Off] and provide an IP address automatically.
- Only when the DHCP setting of the recorder is [Off] are IP addresses automatically provided.
- In the case of IP auto addressing, set the subnet mask of the network port to 255.255.255.0.
- When automatically assigning IP addresses, make sure the octets of the port selected in step 2 match the gateway. Depending on the camera, IP addresses cannot be assigned if it is not set.
- Registering an IP address to a camera automatically sets the camera's HTTP port number to 80. Also, the camera's subnet mask and default gateway are set to the same values as the recorder's network port subnet mask and default gateway.

---

**4** **Click the [Registration] button.**

This will display a camera registration confirmation message.

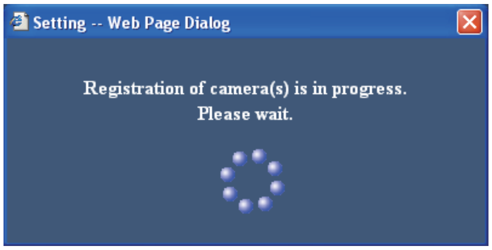


Registration of camera(s) is going to be started.
Are you sure?

**5** **Click the [OK] button.**

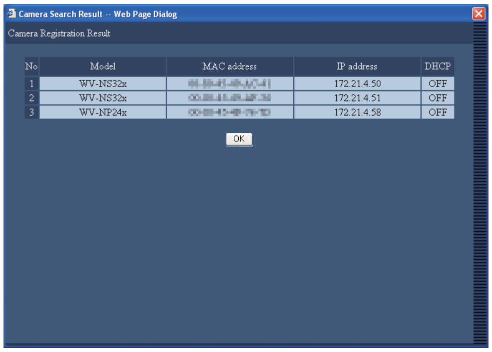
This will detect the camera and perform registration.

The "Setting" dialog box appears while registration is in progress.



Registration of camera(s) is in progress.
Please wait.

A "Camera Registration Result" window will appear after registration is complete.



Camera Registration Result

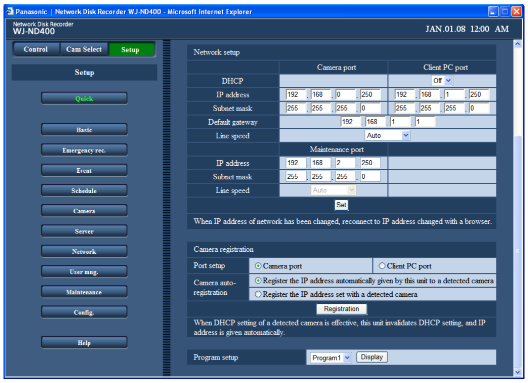
| No | Model | MAC address | IP address | DHCP |
|---|---|---|---|---|
| 1 | WV-NS32x | [redacted] | 172.21.4.50 | OFF |
| 2 | WV-NS32x | [redacted] | 172.21.4.51 | OFF |
| 3 | WV-NP24x | [redacted] | 172.21.4.58 | OFF |

**6** **Check the registration results.**

- Up to 64 cameras can be registered.
- Only newly registered cameras appear in the "Camera registration result" window. If there are more than 64 cameras on the same network, only 64 will be displayed.
- If multiple cameras have the same IP address, the IP address and MAC address will be displayed in red. In this case, change the IP address for one of the cameras and make sure that the same IP address is not used for two cameras or more.

**7** **Click the [OK] button.**

This completes registration.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Set
Registration
Display

Network setup

| | Camera port | Client PC port |
|---|---|---|
| DHCP | | Off |
| IP address | 192.168.0.250 | 192.168.1.250 |
| Subnet mask | 255.255.255.0 | 255.255.255.0 |
| Default gateway | 192.168.1.1 | |
| Line speed | Auto | |
| | Maintenance port | |
| IP address | 192.168.2.250 | |
| Subnet mask | 255.255.255.0 | |
| Line speed | Auto | |

When IP address of network has been changed, reconnect to IP address changed with a browser.

Camera registration

Port setup: ● Camera port ○ Client PC port

Camera auto-registration: ● Register the IP address automatically given by this unit to a detected camera ○ Register the IP address set with a detected camera

When DHCP setting of a detected camera is effective, this unit invalidates DHCP setting, and IP address is given automatically.

Program setup: Program1

**Important:**

- Execute [Register the IP address automatically given by this unit to a detected camera] to automatically provide IP addresses to all detected cameras. Note that some cameras may already be operating.

**Note:**

- When a camera you want to register is not detected or when you want to change the settings of a camera, refer to "NW camera (page 48)".
- Registering a camera forcibly logs out any other users currently logged in to the recorder.
- All recording is disabled while auto camera registration is in progress.
- Camera auto-registration is unavailable for cameras on a different subnet accessed through a router.
- For improved security, some camera models whose settings have been changed from initial defaults are detected for the only first 20 minutes after power is turned on. For details refer to the operating instructions for the camera.
- The compression format of registered cameras is set automatically to JPEG or M-JPEG.

## Quick settings 3

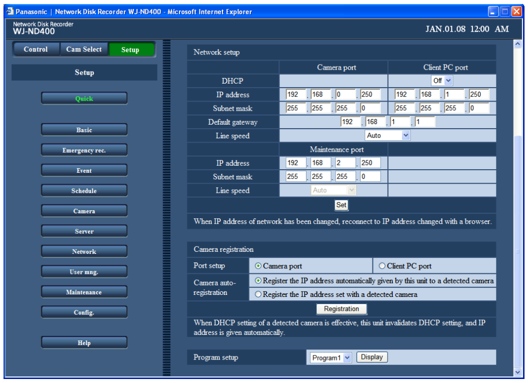
| Item | Settings | Description |
|---|---|---|
| Port setup | Camera port♦ / Client PC port | Select the network port to which the camera being registered is connected. |
| Camera auto-registration | Register the IP address automatically given by this unit to a detected camera♦ / Register the IP address set with a detected camera | Specifies the IP address given to the detected camera by the recorder.<br>• When [On] is selected for [DHCP] for the recorder [Network setup], no IP address can be given to the camera. |

♦Initial default

## Program settings

Use the following procedure to select the recording program that determines the live image rate, recording rate, and other operations.

1 **Click the [Quick] button on the setup menu.**
This will display the setting window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help

Network setup

| | Camera port | Client PC port |
|---|---|---|
| DHCP | | Off |
| IP address | 192.168.0.250 | 192.168.1.250 |
| Subnet mask | 255.255.255.0 | 255.255.255.0 |
| Default gateway | 192.168.1.1 | |
| Line speed | Auto | |
| | Maintenance port | |
| IP address | 192.168.2.250 | |
| Subnet mask | 255.255.255.0 | |
| Line speed | Auto | |

Set

When IP address of network has been changed, reconnect to IP address changed with a browser.

Camera registration

Port setup: ● Camera port ○ Client PC port

Camera auto-registration:
● Register the IP address automatically given by this unit to a detected camera
○ Register the IP address set with a detected camera

Registration

When DHCP setting of a detected camera is effective, this unit invalidates DHCP setting, and IP address is given automatically.

Program setup: Program1 Display

2 **Configure the settings for each item.**
Refer to “Quick settings 4” table for details about the settings.

3 **Click the [Set] button.**

### Quick settings 4

| Item | Settings | Description |
|---|---|---|
| Program setup | Program1♦ to Program8 | Selects the recording program.<br>To check the details of the selected program, click the [Display] button.<br>• Refer to "Program (page 42)" for details about programs. |

♦Initial default

---

**Note:**
- Performing [Camera registration] sets both the live video rate and manual record rate of [Program1] to [Program8] to "1 ips".

---

# Basics

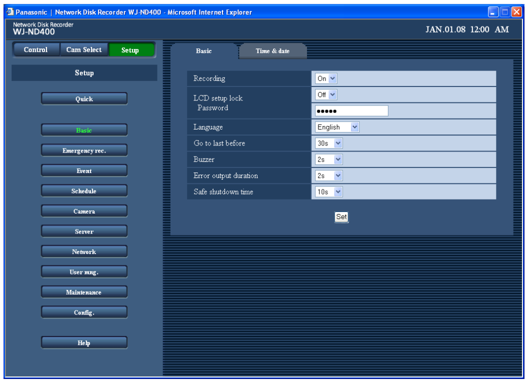
Configure the system settings to operate the recorder.

## Basics

Use the following procedure to configure basic system settings.

**1** **Click the [Basic] button on the setup menu.**

**2** **On the sub-menu that appears, click [Basic].**
This will display the setting window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Basic
Time & date
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Set

Recording: On
LCD setup lock: Off
Password: •••••
Language: English
Go to last before: 30s
Buzzer: 2s
Error output duration: 2s
Safe shutdown time: 10s

**3** **Configure the settings for each item.**
Refer to “Basic setup” table for details about the settings.

**4** **Click the [Set] button.**

### Basic setup

| Item | Settings | Description |
|---|---|---|
| Recording | Off / On♦ | Specifies whether recording should be performed.<br>• Recording is not performed when [Off] is selected. Select [On] for this setting except to force a recording to stop. |
| LCD setup lock | Off♦ / On | Locks front panel buttons to prevent them from being operated.<br>• When [On] is selected, buttons can be unlocked by entering a password, but they will re-lock automatically if no operation is performed for a certain period of time (about one minute). |
| Password | Enter password<br>(12345♦) | Specifies a password for releasing LCD setup lock. Sets the password of five single-byte characters long. |
| Language | Japanese / English♦ / Français / Español / Deutsch / Italiano / Russian / Chinese | Specifies the language used in browser screens. |
| Go to last before | 5s / 10s / 30s♦ / 1min / 5min | Specifies the time the image is displayed when the [Go to last] button is clicked on the operation window. |
| Buzzer | Off / 2s♦ / 5s / 10s / 20s / 30s / 1min / Ext | Specifies the duration that the buzzer sounds whenever an error occurs on the recorder.<br>• Selecting [Ext] causes the buzzer to continue to sound until the [ERR] button is clicked or the [BUZZER STOP] button on the front panel is pressed. |
| Error output duration | Off / 2s♦ / 5s / 10s / 20s / 30s / 1min / Ext | Specifies the duration of the error output whenever an error occurs on the recorder. For details about error output, refer to the Installation Guide.<br>• Selecting [Ext] causes signal output to continue until the [ERR] button is clicked. |
| Safe shutdown time | 10s♦ / 20s / 30s / 1min / 2min / 3min / 4min / 5min | Specifies the time until shutdown starts after a power down detection signal is input to the recorder. |

♦Initial default

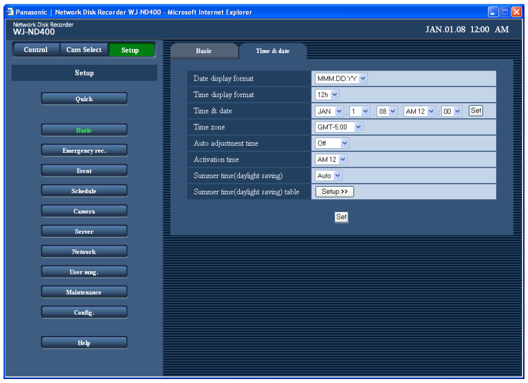
# Time & date

Use the following procedure to set the current time and date.

**1** **Click the [Basic] button on the setup menu.**

**2** **On the sub-menu that appears, click [Time & date].**

This will display the "Time display format" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Basic
Time & date
Setup >>
Set

| | |
|---|---|
| Date display format | MMM.DD.YY |
| Time display format | 12h |
| Time & date | JAN . 1 . 08 AM 12 : 00 Set |
| Time zone | GMT-5:00 |
| Auto adjustment time | Off |
| Activation time | AM 12 |
| Summer time(daylight saving) | Auto |
| Summer time(daylight saving) table | Setup >> |

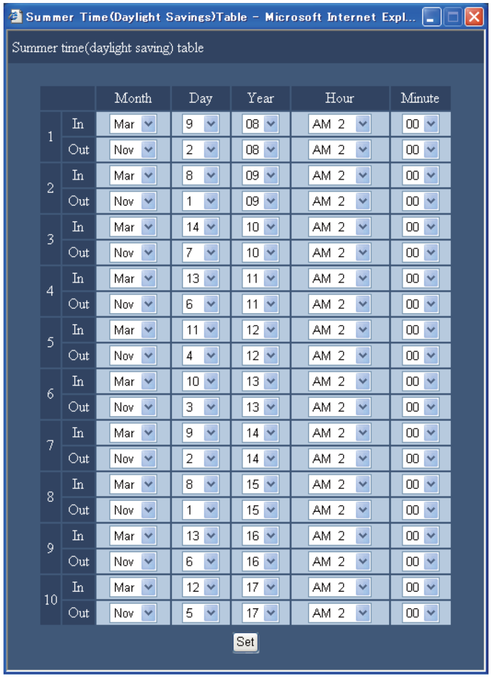
**3** **Configure the settings for each item.**

Refer to “Time display format” table for details about the settings.

**4** **Click the [Set] button.**

### Time display format

| Item | Settings | Description |
|---|---|---|
| Date display format | YY.MM.DD<br>/ MMM.DD.YY<br>/ DD.MMM.YY<br>NTSC model : MMM.DD.YY♦<br>PAL model : DD.MMM.YY♦ | Specifies the date format.<br>Example: April 1, 2008<br>• Selecting [YY.MM.DD] displays the date as [08.04.01].<br>• Selecting [MMM.DD.YY] displays the date as [APR.01.08].<br>• Selecting [DD.MMM.YY] displays the date as [01.APR.08]. |
| Time display format | 24 h / 12 h<br>NTSC model : 12 h♦<br>PAL model : 24 h♦ | Specifies the time format.<br>Example: 3:00 p.m.<br>• Selecting [24h] displays the time as [15:00].<br>• Selecting [12h] displays the time as [3:00 PM]. |
| Time & date | 08 to 34 (year)<br>/ Jan to Dec (month)<br>/ 1 to 31 (day)<br>/ 0 to 23 (hour)<br>/ 0 to 59 (minute) | Sets the current time and date.<br>Configure the year / month / day / hour / minute settings, and then click the [Set] button. Timekeeping starts from the time you set, the moment you click the [Set] button. |
| Time zone | GMT-12:00 to GMT+13:00<br>NTSC model : (GMT-5:00♦)<br>PAL model : (GMT+0:00♦) | Specifies the time zone of the recorder. |
| Auto adjustment time | Off♦ / Slave / Master | Specifies the auto time adjustment method.<br>• Selecting [Slave] specifies that the recorder's time should be adjusted in accordance with an externally input time. The time is adjusted automatically in accordance with a signal input from the alarm/control terminal on the rear panel of the recorder.<br>• Selecting [Master] specifies that the time of other devices should be adjusted in accordance with the recorder. A signal is output from the alarm/control terminal on the rear panel of the recorder and sent to other devices. |

<table>
<tr><th>Item</th><th>Settings</th><th>Description</th></tr>
<tr><td>Activation time</td><td>0♦ to 23</td><td>Specifies the time for auto time adjustment.<br>• When [Slave] is selected for [Auto adjustment time], this setting specifies the time that the recorder's time is auto adjusted.<br>• When [Master] is selected for [Auto adjustment time], this setting specifies the time that the time setting is output from the alarm/control terminal.</td></tr>
<tr><td>Summer time (daylight saving)</td><td>Out / Auto♦</td><td>Specifies the summer time switching method.<br>• Selecting [Out] disables summer time.<br>• Selecting [Auto] enables summer time automatically in accordance with the summer time switching setup. An asterisk (*) next to the time indicates that summer time is in effect.</td></tr>
<tr><td>Summer time (daylight saving) table</td><td></td><td>Specifies the summer time start and end time and date settings. Clicking the [Setup >>] button displays the summer time switching window.<br>
Summer Time(Daylight Savings)Table - Microsoft Internet Expl...

<br>Summer time(daylight saving) table
<table>
<tr><th></th><th></th><th>Month</th><th>Day</th><th>Year</th><th>Hour</th><th>Minute</th></tr>
<tr><td>1</td><td>In</td><td>Mar</td><td>9</td><td>08</td><td>AM 2</td><td>00</td></tr>
<tr><td></td><td>Out</td><td>Nov</td><td>2</td><td>08</td><td>AM 2</td><td>00</td></tr>
<tr><td>2</td><td>In</td><td>Mar</td><td>8</td><td>09</td><td>AM 2</td><td>00</td></tr>
<tr><td></td><td>Out</td><td>Nov</td><td>1</td><td>09</td><td>AM 2</td><td>00</td></tr>
<tr><td>3</td><td>In</td><td>Mar</td><td>14</td><td>10</td><td>AM 2</td><td>00</td></tr>
<tr><td></td><td>Out</td><td>Nov</td><td>7</td><td>10</td><td>AM 2</td><td>00</td></tr>
<tr><td>4</td><td>In</td><td>Mar</td><td>13</td><td>11</td><td>AM 2</td><td>00</td></tr>
<tr><td></td><td>Out</td><td>Nov</td><td>6</td><td>11</td><td>AM 2</td><td>00</td></tr>
<tr><td>5</td><td>In</td><td>Mar</td><td>11</td><td>12</td><td>AM 2</td><td>00</td></tr>
<tr><td></td><td>Out</td><td>Nov</td><td>4</td><td>12</td><td>AM 2</td><td>00</td></tr>
<tr><td>6</td><td>In</td><td>Mar</td><td>10</td><td>13</td><td>AM 2</td><td>00</td></tr>
<tr><td></td><td>Out</td><td>Nov</td><td>3</td><td>13</td><td>AM 2</td><td>00</td></tr>
<tr><td>7</td><td>In</td><td>Mar</td><td>9</td><td>14</td><td>AM 2</td><td>00</td></tr>
<tr><td></td><td>Out</td><td>Nov</td><td>2</td><td>14</td><td>AM 2</td><td>00</td></tr>
<tr><td>8</td><td>In</td><td>Mar</td><td>8</td><td>15</td><td>AM 2</td><td>00</td></tr>
<tr><td></td><td>Out</td><td>Nov</td><td>1</td><td>15</td><td>AM 2</td><td>00</td></tr>
<tr><td>9</td><td>In</td><td>Mar</td><td>13</td><td>16</td><td>AM 2</td><td>00</td></tr>
<tr><td></td><td>Out</td><td>Nov</td><td>6</td><td>16</td><td>AM 2</td><td>00</td></tr>
<tr><td>10</td><td>In</td><td>Mar</td><td>12</td><td>17</td><td>AM 2</td><td>00</td></tr>
<tr><td></td><td>Out</td><td>Nov</td><td>5</td><td>17</td><td>AM 2</td><td>00</td></tr>
</table>
<br>• [In] specifies the summer time start time and date, while [Out] specifies the end time and date. Set the rightmost two digits of the year for the "Year" setting.<br>• Up to 10 settings can be configured.<br>• After configuring the settings you want, click the [Set] button and then click the [x] button in the upper right corner to close the window.</td></tr>
</table>

♦Initial default

**Important:**

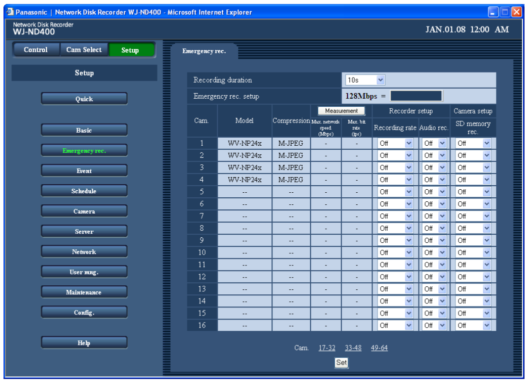
- Recording may not be possible and the live image display turns black for about four seconds immediately after one of the following operations is performed.
  - · Current time and date setting
  - · Shifting to/from summertime (daylight saving)
  - · While [Slave] is selected for auto time adjustment, execution of auto time adjustment (While emergency recording is in progress, recording takes priority and time adjustment is not performed.).

## Emergency recording

Sets the recording duration or recording rate when performing emergency recording by input of the emergency recording input signal. For details about emergency recording, refer to the Installation Guide.

**1** **Click the [Emergency rec.] button on the setup menu.**

This will display the "Emergency rec." window.



Recording duration: 10s

Emergency rec. setup: 128Mbps =

| Cam. | Model | Compression | Measurement | | Recorder setup | | Camera setup |
|---|---|---|---|---|---|---|---|
| | | | Max. network speed (Mbps) | Max. bit rate (ips) | Recording rate | Audio rec. | SD memory rec. |
| 1 | WV-NP24x | M-JPEG | - | - | Off | Off | Off |
| 2 | WV-NP24x | M-JPEG | - | - | Off | Off | Off |
| 3 | WV-NP24x | M-JPEG | - | - | Off | Off | Off |
| 4 | WV-NP24x | M-JPEG | - | - | Off | Off | Off |
| 5 | -- | -- | - | - | Off | Off | Off |
| 6 | -- | -- | - | - | Off | Off | Off |
| 7 | -- | -- | - | - | Off | Off | Off |
| 8 | -- | -- | - | - | Off | Off | Off |
| 9 | -- | -- | - | - | Off | Off | Off |
| 10 | -- | -- | - | - | Off | Off | Off |
| 11 | -- | -- | - | - | Off | Off | Off |
| 12 | -- | -- | - | - | Off | Off | Off |
| 13 | -- | -- | - | - | Off | Off | Off |
| 14 | -- | -- | - | - | Off | Off | Off |
| 15 | -- | -- | - | - | Off | Off | Off |
| 16 | -- | -- | - | - | Off | Off | Off |

Button Functions

| | |
|---|---|
| [Measurement] button | : Click to check for proper operation at the specified recording rate. (page 36) |

**2** **Configure the settings for each item.**

Refer to “Emergency recording settings” table for details about the settings.

- To configure the settings of a camera that is not shown on the display, click the applicable camera number range above the [Set] button to change the contents of the display.
- Clicking a camera number range will save the currently displayed camera settings.

**3** **Click the [Set] button.**

**Important:**

- Recording may not be possible for about four seconds immediately after emergency recording is complete.

### Emergency recording settings

| Item | Settings | Description |
|---|---|---|
| Recording duration | 2s / 5s / 10s♦ / 20s / 30s / 1min / 3min / 5min / 10min / 30min / Manual / Continue | Specifies the duration of emergency recording.<br>• Selecting [Manual] records while the emergency recording input signal is being input. Also, recording is performed for a minimum of 8 seconds.<br>• Selecting [Continue] causes recording to continue until the "Alarm [ALM]" button is clicked. |
| Model | | Shows the registered model numbers of the cameras. |
| Compression | | Shows the image compression format for registered camera images.<br>• Refer to "Checking and changing a camera (Manually setting) (page 50)" for details about compression method settings. |
| Measurement | | |
| Max. network speed (Mbps) | | Shows the maximum bit rate on the network being used when the [Measurement] button is clicked. |
| Max. bit rate (ips) | | Shows the maximum recording rate on the network being used when the [Measurement] button is clicked.<br>• A red rate setting value indicates that live images or recording of the image may not be possible at the specified rate. |
| Recorder setup | | |
| Recording rate | Off♦ / 1ips / 2ips / 3ips / 5ips / 10ips / 15ips / All / I-Frame | Specifies the rate of emergency recording.<br>• Available settings differ according to the compression format of the camera. Refer to "Checking and changing a camera (Manually setting) (page 50)" for details about compression method settings. |

| Item | Settings | Description |
|---|---|---|
| Audio rec.<br>(Audio recording) | Off♦ / On | Specifies whether to record audio images.<br>• Audio and images are recorded at the same time. Audio recording without image is not supported.<br>• Audio recording can be selected only for a camera model that supports audio recording.<br>Refer to the "readme.txt" file on the CD-ROM bundled with the recorder for information about the camera models that support recording. |
| Camera setup | | |
| SD memory rec.<br>(SD memory recording) | Off♦ / 0.1ips / 0.5ips / 1ips | Specifies whether images should be saved to an SD memory card if the signal is lost during emergency recording.<br>• If the camera is a model that supports SD memory recording and the recording format is [M-JPEG], you can specify a recording rate. For information about SD memory recording, refer to About SD memory recording (page 36).<br>• Do not set SD memory recording rates on multiple network disk recorders for the same camera.<br>• Audio recording and SD memory recording cannot be done at the same time.<br>If the SD memory recording rate for a camera is set to anything except [Off], audio recording for that camera channel is automatically set to [Off]. |

♦Initial default

**Important:**

- When there is input of emergency recording to the recorder and when network communication is impossible between the recorder and cameras, SD memory recording cannot be performed because the camera does not recognize emergency recording.
- When "Audio rec." is set to [On], ensure that the audio mode of the camera is set to [On]. Also, set the cameras audio bit rate to "32 kbps".
- When the camera's audio bit rate is set again during operation, set the audio recording settings on the recorder to [Off] and then back to [On] again.
- Audio interruptions may occur because of the "Mic input interval" (intervals for audio reception) setting of the camera. Select the interval setting of the camera according to the network environment.
- Audio interruptions may occur because of the recording rate. To resolve this, change the recording rate according to the network environment.
- To record audio, set the camera's "Audio transmission/reception" to "Mic input" or "Interactive(full duplex)". Some models and versions of cameras do not support "Interactive(full duplex)". For details refer to the operating instructions for the camera.
- Audio is recorded regardless of whether single or multiple screen display is set.

## About the [Measurement] button

By clicking the [Measurement] button, you can check that the specified rates provide proper operation on the network. A red rate setting value indicates that live images or recording of the image may not be possible at the specified rate.

Measurement takes about 90 seconds.

- When measurement results (total of all camera maximum speeds) are greater than the recorder network speed, heavy network traffic may cause dropping of recorded images, live images, alarms, and other data, degraded operational response, restarts, and other problems. (Guideline network speed: 128 Mbps)
- Even when measurement results do not exceed the above guideline network speed, the number of connected cameras and PCs can cause some of the phenomena described above.

**Important:**

- Network traffic volume fluctuates depending on the network environment. Set a rate based on measurement results to ensure enough margin for maximum network speed.
- Recording, playback, live video, a copying are all disabled while measurement is in progress.

**Note:**

- Other users connected to the recorder are logged out automatically during measurement. They are logged back in after measurement is complete.
- Measurement results are for reference only. They are subject to change in accordance with the network environment.
- The target for measurement is the value after clicking [Set].
- Since the recorder uses a network, network traffic and other factors can make it impossible to obtain live video and recorded images as expected from the setup, slow browser response, or disconnection. Also, recording may not be possible when the recorder is in use or malfunctioning. We are not liable for lost content.

## About SD memory recording

SD memory recording is a camera function that saves images to the camera's internal SD memory when communication with the camera is not possible within the programmed recording time set on the recorder.

### Recording rate setting

SD memory recording can only be set if the camera supports SD memory recording and the compression format is set to [M-JPEG].

The recording rate can be set for each camera channel. (page 42)

The start time of SD memory recording depends on the recording rate setting.

Set the SD memory recording rate to a smaller setting than the emergency recording rate.

**Note:**

- When the recording rate for SD memory recording is set, be sure to set to use recording to the SD memory card in the camera. When the camera is set to not use SD memory cards, or when an SD memory card is not inserted in the camera (or inserted incorrectly), an error message appears several times a day and recording is not done.

### Acquiring images saved on the SD memory card

The images are acquired from the SD memory card and recorded on the HDD.

You can confirm when data is being acquired from the SD memory in the "Status display area".

SD memory acquisition is described below.

- 15 minutes past each hour (0:15, 1:15, ...23:15)

**Important:**

- When communication with the camera is discontinued during emergency recording, the recording rate set for SD memory recording is used.
- SD memory recording cannot be done when the network communication between the camera and the recorder is disconnected, and the alarm is entered to the recorder or it reached start time of the scheduled recording time starts.
- Do not set SD memory recording rates on multiple network disk recorders for the same camera.
- The time recorded on the acquired SD memory data is the time set on the camera. The NTP function can be used to synchronize the time on the camera and the recorder. You may not be able to back up SD memory if the time is not synchronized.
- If the recording conditions for multiple cameras are changed and emergency recording is done, recording may be delayed for up to six seconds when 64 cameras are recording at the same time.

**Note:**

- Depending on the schedule's time table and the amount of images, it may not be possible to acquire them all automatically at one time. The images that cannot be acquired may be acquired at the next acquisition.
- Image acquisition is not done in the following situations.
  During playback, HTTP download, emergency recording, and external recording
- SD memory data acquisition is interrupted if the following operations occur.
  - Login
  - Emergency recording
  - External recording
  - Shifting to/from summertime (daylight savings)

# Event

The recorder's alarm action starts according to the settings when an event occurs. The event function includes, terminal alarms, command alarms, and site alarms.

## Event functions

### About events

Event action will be performed when some events occur.

Events include, terminal alarms, site alarms, and command alarms.

For example, if a camera sends a site alarm, the recorder receives the alarm and an event occurs.

### About event action

Event action is the action done when an event occurs.

Depending on the settings event action include, recording images, recording logs, sending external notification (mail notification, LED, buzzers, transmitting to FTP and others). Here, action that send external notifications are called alarms.

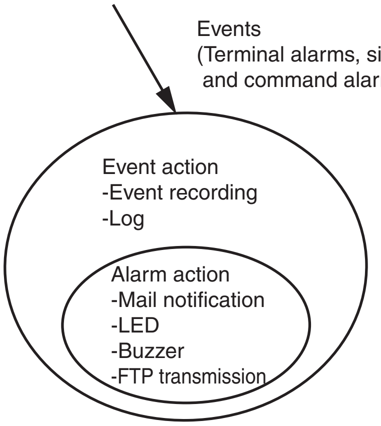


Image of event/alarm action

The recorder starts an event according to the settings when the following events occur.

| | |
|---|---|
| • Terminal Alarm | : Signals from door sensors or other external devices are transmitted through the alarm terminal on the rear panel of the recorder. |
| • Command Alarm | : Receives command alarms from PCs via a network. |
| • Site Alarm | : Receives the Panasonic alarm protocol from network cameras. |

### Event action include the following.

- Start recording images

  Recording is done according to the recording duration and rate settings on the setup menu. The images from a camera before an event occurs can be recorded and linked to the event (pre-event recording). Refer to "Program (page 42)" for details about setting the recording rates.
- Display alarm messages

  A pop-up window appears to indicate an event has occurred.
- Alarm indicator blinks

  Alarm indicator on the front of the recorder blinks.
- Buzzer sounds

  The buzzer sounds according to the settings on the setup menu (page 38).
- The camera goes to its preset position.

  The camera moves to a pre-registered preset position. Refer to the Operating Instructions (PDF file) for information about registering preset positions.
- Notify of an event occurrence by sending e-mails

  Alarm mail (notification of the time and date of an event) is sent to registered e-mail addresses when an event occurs. A JPEG image can be attached to this e-mail. Up to 4 addresses can be registered to receive the alarm mail. Refer to "Mail (page 58)" for information about the settings.
- Alarm signal output from the Alarm/Control connector on the rear panel of the recorder (Alarm output)

  When an event occurs, a signal is output from the Alarm/Control connector on the rear panel of the recorder to sound the buzzar. The time the signal is output is set on the setup menu (page 38).
- Event log is recorded

  When an event occurs, the type of event and the time it occurred are recorded in an event log.
- Images recorded during events are sent to an FTP server

  When an event occurs, images are recorded from when the event starts for a set period of time and are automatically sent to an FTP server. Refer to "Time table (page 46), FTP (page 56)" for information about the settings.
- A PC is notified of an alarm according to Panasonic alarm protocol settings

  When an event or error occurs, a PC is automatically notified regarding event or error information according to the [Panasonic alarm protocol] settings. Install the software* (option) on the PC designated to receive and display event or error notification.

* Refer to the "readme.txt" file on the CD-ROM for details about the software.

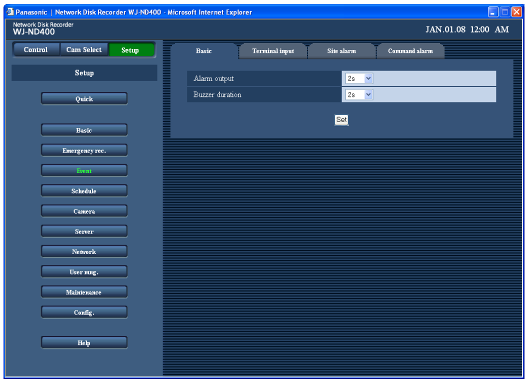
## Basics

Use the procedures in this section to configure alarm output duration and buzzer duration settings for when an event (site alarm, terminal alarm, command alarm) occurs.

**1** **Click the [Event] button on the setup menu.**

**2** **On the sub-menu that appears, click [Basic].**

This displays the event action basic setup window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Basic
Terminal input
Site alarm
Command alarm
Set

Alarm output: 2s
Buzzer duration: 2s

**3** **Configure the settings for each item.**

Refer to “Basic event settings” table for details about the settings.

**4** **Click the [Set] button.**

### Basic event settings

| Item | Settings | Description |
|---|---|---|
| Alarm output | Off / 2s♦ / 5s / 10s / 20s / 30s / 1min / Ext / Rec | Specifies the alarm output duration.<br>• Selecting [Ext] causes alarm output to continue until the "Alarm [ALM]" button is clicked.<br>• Selecting [Rec] causes alarm output while event recording is in progress. |
| Buzzer duration | Off / 2s♦ / 5s / 10s / 20s / 30s / 1min / Ext / Rec | Specifies buzzer duration.<br>• Selecting [Ext] causes the buzzer to continue to sound until the "Alarm [ALM]" button is clicked or the [BUZZER STOP] button on the front panel is pressed.<br>• Selecting [Rec] causes the buzzer to sound while event recording is in progress. |

♦Initial default

# Terminal alarm

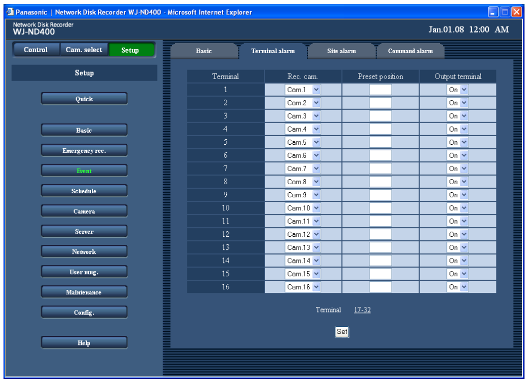
Use the following procedure to configure settings the control alarm action when a terminal alarm occurs.

For information on how to register preset positions for the camera, refer to the Operating Instructions.

1 **Click the [Event] button on the setup menu.**

2 **On the sub-menu that appears, click [Terminal alarm].**

This will display the terminal alarm setting window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Basic
Terminal alarm
Site alarm
Command alarm
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Set

| Terminal | Rec. cam. | Preset position | Output terminal |
|---|---|---|---|
| 1 | Cam.1 | | On |
| 2 | Cam.2 | | On |
| 3 | Cam.3 | | On |
| 4 | Cam.4 | | On |
| 5 | Cam.5 | | On |
| 6 | Cam.6 | | On |
| 7 | Cam.7 | | On |
| 8 | Cam.8 | | On |
| 9 | Cam.9 | | On |
| 10 | Cam.10 | | On |
| 11 | Cam.11 | | On |
| 12 | Cam.12 | | On |
| 13 | Cam.13 | | On |
| 14 | Cam.14 | | On |
| 15 | Cam.15 | | On |
| 16 | Cam.16 | | On |

Terminal 17-32

3 **Configure the settings for each item.**

Refer to “Terminal alarm settings” table for details about the settings.

- To configure the settings of a terminal that is not shown on the display, click the terminal number range above the [Set] button to change the contents of the window.
- Clicking a terminal number range will save the currently displayed camera settings.

4 **Click the [Set] button.**

## Terminal alarm settings

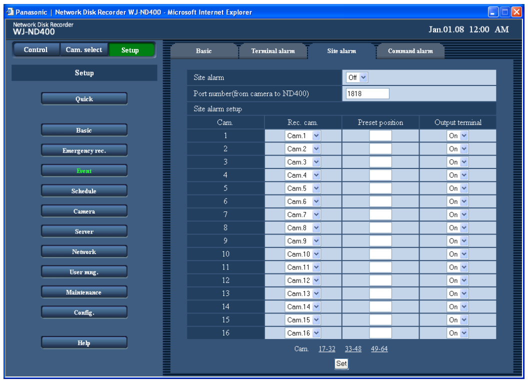
| Item | Settings | Description |
|---|---|---|
| Rec. cam. | Cam.1 to Cam.64 / -- | Specifies the channel of the recording camera. |
| Preset position | Number input<br>(Blank♦) | Specifies the preset position (1 to 256) during alarm input.<br>• When this setting is blank, the camera does not move to a preset position. |
| Output terminal | Off / On♦ | Specifies whether an alarm signal should be output when an event occurs. |

♦Initial default

## Site alarm

Use the following procedure to configure settings that control terminal alarm action when a Panasonic alarm protocol alarm (site alarm) is sent from a camera.

1. **Click the [Event] button on the setup menu.**
2. **On the sub-menu that appears, click [Site alarm].**
   This will display the site alarm setting window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Basic
Terminal alarm
Site alarm
Command alarm
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Cam. 17-32 33-48 49-64
Set

Site alarm: Off

Port number(from camera to ND400): 1818

Site alarm setup

| Cam. | Rec. cam. | Preset position | Output terminal |
|---|---|---|---|
| 1 | Cam.1 | | On |
| 2 | Cam.2 | | On |
| 3 | Cam.3 | | On |
| 4 | Cam.4 | | On |
| 5 | Cam.5 | | On |
| 6 | Cam.6 | | On |
| 7 | Cam.7 | | On |
| 8 | Cam.8 | | On |
| 9 | Cam.9 | | On |
| 10 | Cam.10 | | On |
| 11 | Cam.11 | | On |
| 12 | Cam.12 | | On |
| 13 | Cam.13 | | On |
| 14 | Cam.14 | | On |
| 15 | Cam.15 | | On |
| 16 | Cam.16 | | On |

3. **Configure the settings for each item.**
   Refer to “Site alarm settings” table for details about the settings.
   - To configure the settings of a camera that is not shown on the display, click the applicable camera number range above the [Set] button to change the contents of the display.
   - Clicking a camera number range saves the currently displayed camera settings.
4. **Click the [Set] button.**

### Site alarm settings

| Item | Settings | Description |
|---|---|---|
| Site alarm | Off♦ / On | Specifies whether to validate the site alarm. |
| Port number<br>(from camera to ND400) | Port number input<br>(1818♦) | Specifies the port number that receives the site alarm. |
| Site alarm setup | | |
| Rec. cam. | Cam.1 to Cam.64 / -- | Specifies the channel of the recording camera. |
| Preset position | Signal input<br>(Blank♦) | Specifies the preset position (1 to 256) during alarm input.<br>• When this setting is blank, the camera does not move to a preset position. |
| Output terminal | Off / On♦ | Specifies whether an alarm signal should be output when an event occurs. |

♦Initial default

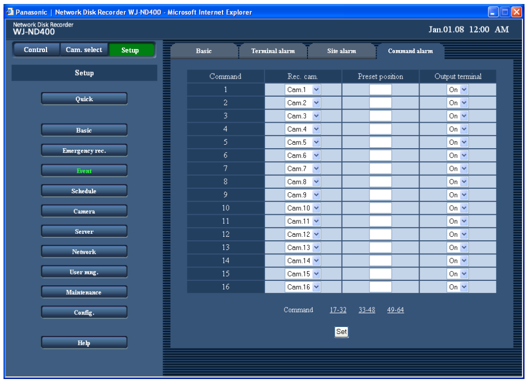
# Command alarm

Use the following procedure to configure settings that control command alarm action when an event occurs.

**1** **Click the [Event] button on the setup menu.**

**2** **On the sub-menu that appears, click [Command alarm].**

This will display the command alarm setting window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Basic
Terminal alarm
Site alarm
Command alarm
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Command
17-32
33-48
49-64
Set

| Command | Rec. cam. | Preset position | Output terminal |
|---|---|---|---|
| 1 | Cam.1 |  | On |
| 2 | Cam.2 |  | On |
| 3 | Cam.3 |  | On |
| 4 | Cam.4 |  | On |
| 5 | Cam.5 |  | On |
| 6 | Cam.6 |  | On |
| 7 | Cam.7 |  | On |
| 8 | Cam.8 |  | On |
| 9 | Cam.9 |  | On |
| 10 | Cam.10 |  | On |
| 11 | Cam.11 |  | On |
| 12 | Cam.12 |  | On |
| 13 | Cam.13 |  | On |
| 14 | Cam.14 |  | On |
| 15 | Cam.15 |  | On |
| 16 | Cam.16 |  | On |

**3** **Configure the settings for each item.**

Refer to “Command alarm settings” table for details about the settings.

- To configure the settings of a command alarm that is not shown on the display, click the applicable command alarm number range above the [Set] button to change the contents of the display.
- Clicking a command number saves the currently displayed command settings.

**4** **Click the [Set] button.**

## Command alarm settings

| Item | Settings | Description |
|---|---|---|
| Rec. cam. | Cam.1 to Cam.64 / -- | Specifies the channel of the recording camera. |
| Preset position | Number input<br>(Blank♦) | Specifies the preset position (1 to 256) during alarm input.<br>• When this setting is blank, the camera does not move to a preset position. |
| Output terminal | Off / On♦ | Specifies whether an alarm signal should be output when an event occurs. |

♦Initial default

# Schedules

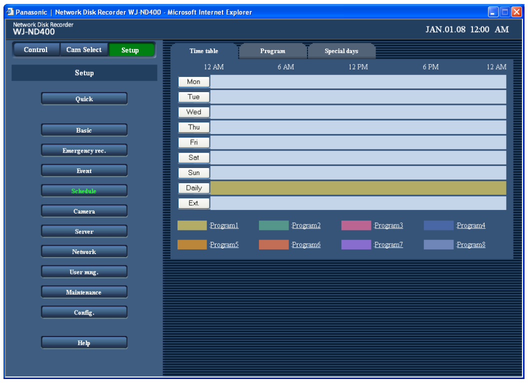
Create a schedule by specifying the day and time to record.

## Program

Use the procedure in this section to create a recording program that controls live images, the recording rate, etc.

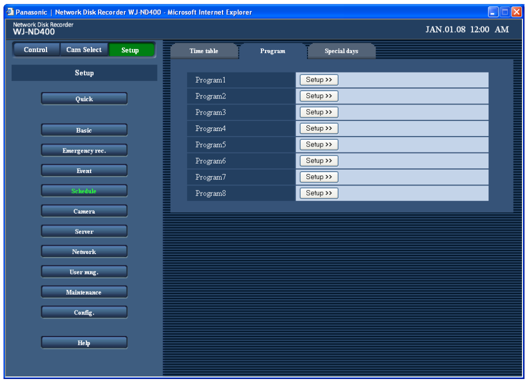
You can create up to eight recording programs on the recorder.

**1** **Click the [Schedule] button on the setup menu.**


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Time table
Program
Special days
12 AM
6 AM
12 PM
6 PM
12 AM
Mon
Tue
Wed
Thu
Fri
Sat
Sun
Daily
Ext.
Program1
Program2
Program3
Program4
Program5
Program6
Program7
Program8

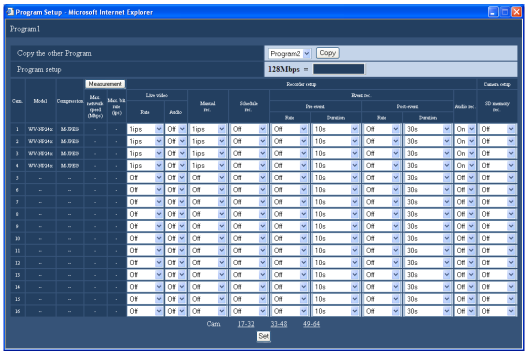
**2** **On the sub-menu that appears, click [Program].**

This will display the schedule program setting window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Time table
Program
Special days
Program1
Setup >>
Program2
Setup >>
Program3
Setup >>
Program4
Setup >>
Program5
Setup >>
Program6
Setup >>
Program7
Setup >>
Program8
Setup >>

**3** **Click the [Setup >>] button of the program number whose settings you want to configure.**

This will display the program setting window.


Program Setup - Microsoft Internet Explorer
Program1
Copy the other Program
Program2
Copy
Program setup
128Mbps =
Measurement
Recorder setup
Camera setup
Cam.
Model
Compression
Live video
Rate
Audio
Manual rec.
Schedule rec.
Event rec.
Pre-event
Post-event
Duration
Audio rec.
SD memory rec.
Cam
17-32
33-48
49-64
Set

Button Functions

| | |
|---|---|
| [Copy] button | : Copies the settings of the currently selected program. Changes the settings of the currently displayed window. |
| [Measurement] button | : Click to check for proper operation at the specified recording rate. (page 45) |

**4** **Configure the settings for each item.**

Refer to "Program settings" table for details about the settings.

- To configure the settings of a camera that is not shown on the display, click the applicable camera number range above the [Set] button to change the contents of the display.
- Clicking a camera number range will save the currently displayed camera settings.

**5** **Click the [Set] button.**

**Important:**

- Only the currently displayed page (the selected program) can be copied.

### Program settings

| Item | Settings | Description |
|---|---|---|
| Model | | Shows the model number of the selected camera. |
| Compression | | Shows the compression format of the recorded image.<br>• To change the compression format, refer to "NW camera (page 48)". |
| Measurement | | |
| Max. network speed (Mbps) | | Shows the maximum bit rate on the network being used when the [Measurement] button is clicked. |
| Max. bit rate (ips) | | Shows the maximum recording rate on the network being used when the [Measurement] button is clicked.<br>• A red rate setting value indicates that live images or recording of the image may not be possible at the specified rate. |
| Recorder setup - Live video | | |
| Rate | Off[*1] / 1ips[*2] / 2ips / 3ips / 5ips / 10ips / 15ips / All[*3] / I-Frame | Specifies the live image rate of the camera image.<br>• Available settings differ according to the currently selected compression format. Refer to "Checking and changing a camera (Manually setting) (page 50)" for details about compression method settings. |
| Audio | Off[*1*2*3] / On | Specifies whether audio should be transmitted with live images.<br>• Audio and live video are sent at the same time. Audio cannot be transmitted unless live images are transmitted.<br>• Audio transmitting can be selected only for a camera model that supports audio transmitting. |
| Recorder setup | | |
| Manual rec. | Off[*1] / 0.1ips / 0.2ips / 0.3ips / 0.5ips / 1ips[*2] / 2ips / 3ips / 5ips / 10ips / 15ips / All / I-Frame[*3] | Specifies the recording rate for manual recording.<br>Available settings differ according to the currently selected compression format. |
| Schedule rec. | Off[*1*2*3] / 0.1ips / 0.2ips / 0.3ips / 0.5ips / 1ips / 2ips / 3ips / 5ips / 10ips / 15ips / All / I-Frame | Specifies the recording rate for schedule recording.<br>Available settings differ according to the currently selected compression format. |
| Recorder setup - Event rec. - Pre-event | | |
| Rate | Off[*1*2*3] / 1ips / 2ips / 3ips / 5ips / 10ips / 15ips / All / I-Frame | Specifies the rate of pre-event recording.<br>• Available settings differ according to the currently selected compression format. Refer to "Checking and changing a camera (Manually setting) (page 50)" for details about compression method settings.<br>• [All] cannot be selected when [M-JPEG] is selected as the compression format. |
| Duration | 2s / 5s / 10s[*1*2*3] / 20s / 30s / 1min / 3min / 5min / 10min / 15min | Specifies the time of pre-event recording.<br>• Pre-event recording on a camera channel for which a pre-recording area has been made on the HDD is performed at all times by the pre-recording area in the HDD. Refer to "Pre-event recording area formatting (page 88)" for details about pre-recording area.<br>• For guidelines on times in pre-event recording when the pre-recording area has not been made on the HDD, refer to the memo at page 44. |
| Recorder setup - Event rec. - Post-event | | |
| Rate | Off[*1*2*3] / 1ips / 2ips / 3ips / 5ips / 10ips / 15ips / All / I-Frame | Specifies the rate of post-event recording.<br>• Available settings differ according to the currently selected compression format. Refer to "Checking and changing a camera (Manually setting) (page 50)" for details about compression method settings. |

| Item | Settings | Description |
|---|---|---|
| Duration | 2s / 5s / 10s / 20s / 30s[*1*2*3] / 1min / 2min / 3min / 5min / 10min / 15min / Manual / Continue | Specifies the time of post-event recording.<br>• When [Manual] is selected, recording is performed only while the alarm signal is being input. At that time, minimum recording time is eight seconds.<br>• Selecting [Continue] causes recording to continue until the "Alarm [ALM]" button is clicked. |
| Recorder setup | | |
| Audio rec.<br>(Audio recording) | Off[*1*2*3] / On | Specifies whether audio should be recorded with images.<br>• Audio and images are recorded at the same time. Audio only recording without image recording is not supported.<br>• Audio recording can be selected only for a camera model that supports audio recording. |
| Camera setup | | |
| SD memory rec.<br>(SD memory recording) | Off[*1*2*3] / 0.1ips / 0.5ips / 1ips | Specifies whether images should be saved to an SD memory card if the signal is lost during recording.<br>• If the camera is a model that supports SD memory recording and the recording format is [M-JPEG], you can specify a recording rate. For information about SD memory recording, refer to About SD memory recording (page 36).<br>• Do not set SD memory recording rates on multiple network disk recorders for the same camera.<br>• Audio recording and SD memory recording cannot be done at the same time.<br>If the SD memory recording rate for a camera is set to anything except [Off], audio recording for that camera channel is automatically set to [Off]. |

*1 Initial default setting when camera is not registered

*2 Initial default setting when camera is registered (Compression Format: JPEG, M-JPEG)

*3 Initial default setting when camera is registered (Compression Format: MPEG-4)

**Important:**

- Recording at the set recording rate and for the set recording time may not be possible depending on the network environment or the size of image data.
- When a pre-event recording area has not been assigned to the HDD, the maximum pre-event recording time with audio on is 30 seconds.
- We recommend setting the camera's refresh cycle to one second if the camera's compression format is MPEG-4. If the camera's refresh cycle is too long, pre-event recording data may not be created.
- Recording for the set Post-event recording time may not be possible depending on the timing of the event occurrence.
- When "Audio" and "Audio rec." are set to [On], ensure that the audio mode of the camera is set to [On]. Also, set the cameras audio bit rate to "32 kbps".
- When the camera's audio bit rate is set again during operation, set the audio recording settings on the recorder to [Off] and then back to [On] again.
- Audio interruptions may occur because of the "Mic input interval" (intervals for audio reception) setting of the camera. Select the interval setting of the camera according to the network environment.
- Audio interruptions may occur because of the recording rate. To resolve this, change the recording rate according to the network environment.
- To record audio, set the camera's "Audio transmission/reception" to "Mic input" or "Interactive(full duplex)". Some models and versions of cameras do not support "Interactive(full duplex)". For details refer to the operating instructions for the camera.
- Audio is recorded regardless of whether single or multiple screen display is set.

**Note:**

- In the case of an MPEG-4 image, set a recording time of at least 10 seconds.
- Refer to the following table as a guideline when setting the times in pre-event recording.

| Pre-event recording rate | JPEG resolution/image quality VGA/24 KB or equivalent | JPEG resolution/image quality VGA/48 KB or equivalent | JPEG resolution/image quality VGA/128 KB or equivalent |
|---|---|---|---|
| 3ips | 50s | 25s | 10s |
| 5ips | 30s | 15s | 6s |
| 10ips | 15s | 8s | 3s |

## About the [Measurement] button

Clicking the [Measurement] button displays a window that you can use to confirm that the specified rates provide proper operation on the network being used. A red rate setting value indicates that live images or recording of the image may not be possible at the specified rate.

Measurement takes about 90 seconds.

- When measurement results (total of all camera maximum speeds) are greater than the recorder network speed, heavy network traffic can cause dropping of recorded images, live images, alarms, and other data, degraded operational response, restarts, and other problems. (Guideline network speed: 128 Mbps)
- Even when measurement results do not exceed the above guideline network speed, the number of connected cameras and PCs can cause some of the phenomena described above.

**Important:**

- Network traffic volume fluctuates depending on the network environment. Set a rate based on measurement results to ensure enough margin for maximum network speed.
- Recording, playback, live video, a copying are all disabled while measurement is in progress.

**Note:**

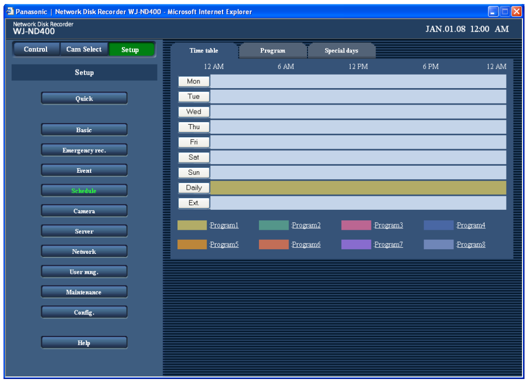
- Other users connected to the recorder are logged out automatically during measurement. They are logged back in after measurement is complete.
- Measurement results are for reference only. They are subject to change in accordance with the network environment.
- The target for measurement is the value after clicking [Set].
- Since the recorder uses a network, network traffic and other factors can make it impossible to obtain live video and recorded images as expected from the setup, slow browser response, or broken connections. Also, recording may not be possible when the recorder is in use or malfunctioning. We are not liable for lost content.

# Time table

Use the procedure in this section to configure time table settings to schedule recording operations for each day of the week, and to assign each time table to a recording program. You can configure up to six time tables, for specific days of the week. You also can configure settings for externally controlled recording. Refer to page 47 for details about external recording.

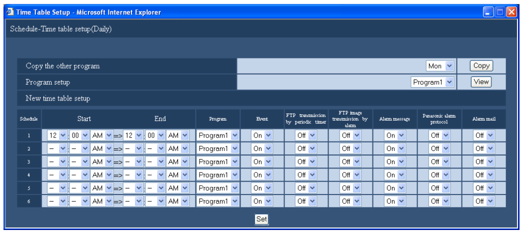
1. **Click the [Schedule] button on the setup menu.**

2. **On the sub-menu that appears, click [Time table].**
   This will display the schedule time table setting window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Time table
Program
Special days
12 AM
6 AM
12 PM
6 PM
12 AM
Mon
Tue
Wed
Thu
Fri
Sat
Sun
Daily
Ext.
Program1
Program2
Program3
Program4
Program5
Program6
Program7
Program8

3. **Click a day of the week, [Daily], or [Ext.] to select the type of setting you want to configure.**
   This will display the "Time table Setup" window.

- To copy the time table currently configured for another day of the week, select the day of the week with the "Copy the other program" box and then click the [Copy] button.


Time Table Setup - Microsoft Internet Explorer
Schedule-Time table setup(Daily)
Copy the other program
Mon
Copy
Program setup
Program1
View
New time table setup
Set

| Schedule | Start | End | Program | Event | FTP transmission by periodic timer | FTP image transmission by alarm | Alarm message | Panasonic alarm protocol | Alarm mail |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 12 : 00 AM | 12 : 00 AM | Program1 | On | Off | Off | On | Off | Off |
| 2 | – : – AM | – : – AM | Program1 | On | Off | Off | On | Off | Off |
| 3 | – : – AM | – : – AM | Program1 | On | Off | Off | On | Off | Off |
| 4 | – : – AM | – : – AM | Program1 | On | Off | Off | On | Off | Off |
| 5 | – : – AM | – : – AM | Program1 | On | Off | Off | On | Off | Off |
| 6 | – : – AM | – : – AM | Program1 | On | Off | Off | On | Off | Off |

Button Functions

| | |
|---|---|
| [Copy] button | : Copies the settings of the currently selected day of the week. |
| [View] button | : Displays the contents of the currently selected program. |

4. **Configure the settings for each item.**
   Refer to “Time table setup” table for details about the settings.

5. **Click the [Set] button.**
   - The set time table and program are reflected.
     Programs are displayed by color.

### Time table setup

| Item | Settings | Description |
|---|---|---|
| Start[*1] | -- / 00:00 to 23:45 | Specifies the recording start time.<br>• No time after [23:46] is supported for the recording start time setting.<br>• Repeat steps 1-5 to set programs of another day of the week. |
| End[*1] | -- / 00:15 to 24:00 | Specifies the recording end time. |
| Program | Program 1♦ to Program 8 | Selects the recording program. |
| Event | Off / On♦ | Set whether event operations are done when an event occurs.<br>• Event operations are not done if set to [Off]. |
| FTP transmission by periodic timer | Off♦ / On | Specifies whether images should be sent periodically to the FTP server.<br>• If you select [On], also configure "FTP (page 56)". |
| FTP image transmission by alarm | Off♦ / On | Specifies whether images of the alarm location should be sent to the FTP server when an event occurs.<br>• If you select [On], also configure "FTP (page 56)". |

| Item | Settings | Description |
|---|---|---|
| Alarm message | Off / On♦ | Specifies whether an event alert pop-up should appear on the PC window of the administrator when an event occurs. |
| Panasonic alarm protocol | Off♦ / On | Specifies whether event information should be sent to a PC automatically when an event occurs.<br>• Refer to "Panasonic alarm protocol (page 66)" for details about destination address settings.<br>• Special software[*2] is required for a PC to display received information. |
| Alarm mail | Off♦ / On | Specifies whether alarm mail should be output when an event occurs.<br>• For information about configuring the mail server address, destination address, and other mail settings, refer to "Mail (page 58)". For information about mail, refer to "Alarm mail notification (page 90)". |

♦Initial default

*1 There must be at least 15 minutes between the specified start and end times.

*2 Refer to the "readme.txt" file on the CD-ROM for details about the software.

**Note:**

- If an alarm occurs, alarm message, Panasonic alarm protocol, and alarm mail operate even if they are off.

## About externally controlled recording

Connecting an external switch to the recorder makes it possible control recording in accordance with external switch On/Off operations. In order to perform externally controlled recording, you will need to configure a recording program with schedule indicating when the external switch is to be used.

For information about external switch connection, refer to the Installation Guide.

The following is the priority sequence used when the individual day, daily, and external recording schedules overlap.

[Ext.] > "[Mon] through [Sun] (day of week)" > [Daily]

**Important:**

- Recording is not performed when input is received from an external switch during a time for which there is no recording program allocated. Be sure to allow enough margin when allocating externally controlled recording times.

## Special days

The special days feature lets you assign the time table configured for a day of the week to another day. You can assign up to 30 special days.

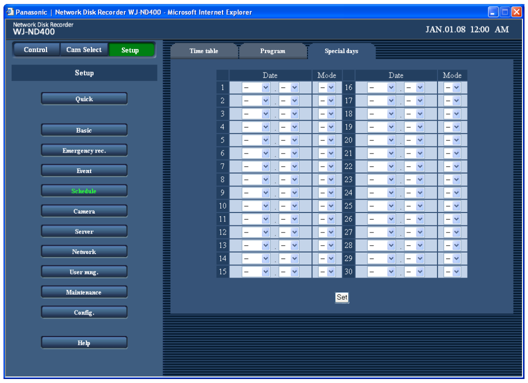
The following is the priority sequence used when the individual day, daily, external recording, and special day schedules overlap.

[Ext.] > [Special days] > "[Mon] through [Sun] (day of week)" > [Daily]

**1** **Click the [Schedule] button on the setup menu.**

**2** **On the sub-menu that appears, click [Special days].**

This will display the special days setting window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Time table
Program
Special days
Date
Mode
Date
Mode
Set

**3** **Enter the date and day of the week of the special day.**

**4** **Click the [Set] button.**

# Camera

Configure the network settings (address, ports etc.) and group settings, and sequence operations for the cameras.

## NW camera

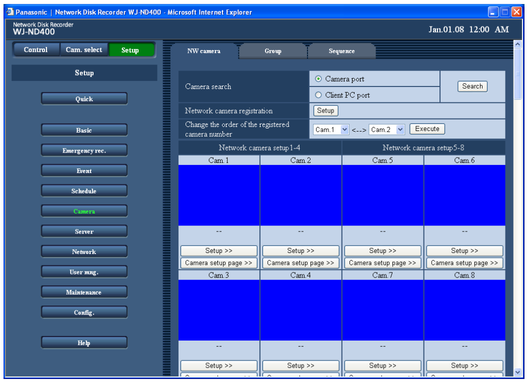
Use the procedures in this section to register and modify network cameras.

### Automatically detecting and registering cameras

**1** **Click the [Camera] button on the setup menu.**

**2** **Click the [NW camera] tab.**

This will display the "NW camera setup" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
NW camera
Group
Sequence
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Search
Setup
Execute
Network camera setup1-4
Network camera setup5-8
Cam.1
Cam.2
Cam.5
Cam.6
Cam.3
Cam.4
Cam.7
Cam.8
Setup >>
Camera setup page >>

| | |
|---|---|
| Camera search | ● Camera port<br>○ Client PC port |
| Network camera registration | Setup |
| Change the order of the registered camera number | Cam.1 <--> Cam.2 |

Button Functions

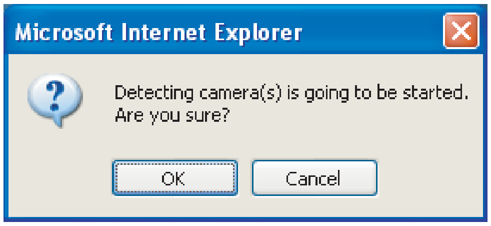
[Search] button : This causes the cameras to be detected automatically.

**3** **Select one of the following for the camera detect network port.**

[Camera port] / [Client PC port]

**4** **Click the [Search] button.**

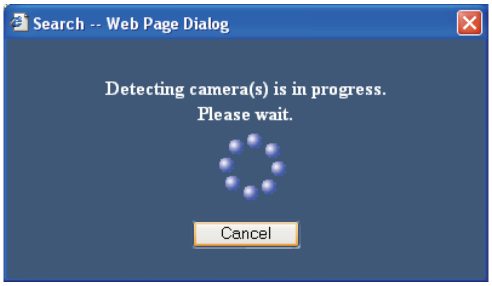
This will display a camera search confirmation message.


Microsoft Internet Explorer
OK
Cancel

Detecting camera(s) is going to be started.
Are you sure?

**5** **Click the [OK] button.**

This will detect the camera and perform registration. The "Search" dialog box appears while registration is in progress.

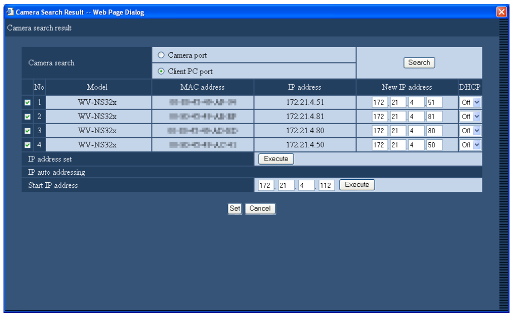

Search -- Web Page Dialog
Cancel

Detecting camera(s) is in progress.
Please wait.

**6** **Find the camera you want to register, and check if its check box under "Camera search" is selected.**

If the check box is not selected, select it.

- You can register up to 64 cameras (the list of detected cameras can show up to 128). Registration will not be possible if more than 64 cameras are selected in the list. Adjust the list so there are no more than 64 cameras selected.
- If multiple cameras have the same IP address, the IP address and MAC address will be displayed in red. In this case, change the IP address for one of the cameras and make sure that the same IP address is not used for two cameras or more.


Camera Search Result -- Web Page Dialog
Camera search result
Search
Execute
Set
Cancel

Camera search: ○ Camera port ● Client PC port

| | No | Model | MAC address | IP address | New IP address | DHCP |
|---|---|---|---|---|---|---|
| ☑ | 1 | WV-NS32x | [redacted] | 172.21.4.51 | 172.21.4.51 | Off |
| ☑ | 2 | WV-NS32x | [redacted] | 172.21.4.81 | 172.21.4.81 | Off |
| ☑ | 3 | WV-NS32x | [redacted] | 172.21.4.80 | 172.21.4.80 | Off |
| ☑ | 4 | WV-NS32x | [redacted] | 172.21.4.50 | 172.21.4.50 | Off |

IP address set
IP auto addressing
Start IP address: 172.21.4.112

**7** **To change the IP address of a camera, enter the new address into the "New IP address" field and then click the [Execute] button.**

---

**Note:**

- Entering a start address and then clicking the [Execute] button automatically assigns the numbers in the blank following the IP address.

---

**8** **Click the [Set] button.**

This completes registration.

- When the recorder is configured to assign IP addresses to cameras, the above procedure will cause the camera IP address to be changed.

### NW camera settings 1

| Item | Settings | Description |
|---|---|---|
| Model | | Shows the model number of a detected camera. |
| MAC address | | Shows the MAC address of the camera. |
| IP address | | Shows the IP address of the camera. |
| New IP address | Address input | Enter a new IP address to assign it to a camera. |
| DHCP | Off / On | Specifies whether DHCP is used by the camera. |

♦Initial default

**Note:**

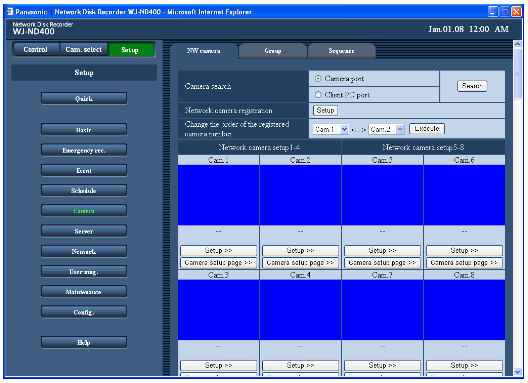
- Registering a camera forcibly logs out any other users currently logged in to the recorder.
- All recording is disabled while camera registration is in progress.
- Camera search cannot be used with cameras on another subnet accessed via a router.
- For improved security, some camera models whose settings have been changed from initial defaults are detected for the only first 20 minutes after power is turned on. For details refer to the operating instructions for the camera.
- The compression format of registered cameras is set automatically to JPEG or M-JPEG.
- In the case of IP auto addressing, set 255.255.255.0 for the subnet mask of the port connected to the cameras.
- When automatically assigning IP addresses, make sure the octets of the port selected in step 3 on “Automatically detecting and registering cameras (page 48)” match the gateway. Depending on the camera, IP addresses cannot be assigned if it is not set.
- Registering an IP address to a camera automatically sets the camera's HTTP port number to 80. Also, the camera's subnet mask and default gateway are set to the same values as the camera's network port subnet mask and default gateway.
- When the [Execute] button is clicked and the IP addresses of the cameras are changed, the checkboxes of the detected cameras (1-64) on the "Camera Search Result" window will be checked.
- When the [Execute] button of "Start IP Address" is clicked, the unit will automatically find an unused IP address and set it to the detected camera. However, depending on the network environment, the set IP address may be already used for the other network device such as when using the firewall function of Windows®. In this case, check the IP address setting and register the other IP address for the camera manually. When a message saying there is no available IP address is displayed, check and arrange the IP address settings to manually register an unused IP address to the camera.
- "Start IP Address" is available only when "OFF" is set for the DHCP settings of the unit.

## Switch cameras (4-screen display setting)

**1** **Click the [Camera] button on the setup menu.**

**2** **Click the [NW camera] tab.**

This will display the "NW camera setup" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
NW camera
Group
Sequence
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Camera search
○ Camera port
○ Client PC port
Search
Network camera registration
Setup
Change the order of the registered camera number
Cam.1 <--> Cam.2
Execute
Network camera setup1-4
Network camera setup5-8
Cam.1
Cam.2
Cam.5
Cam.6
Cam.3
Cam.4
Cam.7
Cam.8
Setup >>
Camera setup page >>

**3** **Select the numbers of the cameras to switch in the pull down menu for switching cameras.**

- The 4-screen combinations are displayed as channels 1 to 4, 5 to 8, and so on up to 61 to 64. To change the combination, change the sequence of the camera channels.
- The settings are shared by the 4-screen live sequence display.

**4** **Click the [Execute] button.**

This changes the camera channel number.

**Important:**

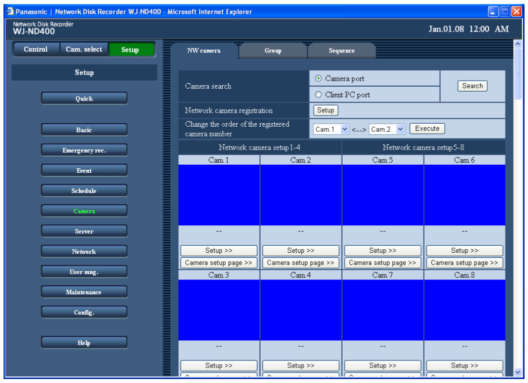
- When you camera channel number is changed, it is also changed for the following settings.
  - · "Emergency recording (page 34)"
  - · "Program (page 42)"
  - · "Network information (page 78)"

## Checking and changing a camera (Manually setting)

**1** **Click the [Camera] button on the setup menu.**

**2** **Click the [NW camera] tab.**

This will display the "NW camera setup" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
NW camera
Group
Sequence
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Camera search
○ Camera port
○ Client PC port
Search
Network camera registration
Setup
Change the order of the registered camera number
Cam.1 <--> Cam.2
Execute
Network camera setup1-4
Network camera setup5-8
Cam.1
Cam.2
Cam.5
Cam.6
Cam.3
Cam.4
Cam.7
Cam.8
Setup >>
Camera setup page >>

Button Functions

| | |
|---|---|
| [Setup] button | : Displays a list of camera setup screens. |
| [Setup >>] button | : Displays individual camera setup screens. |
| [Camera setup page: >>] button | The setup menu on the camera can be called up. For information about camera settings, refer to the camera operating instructions. |

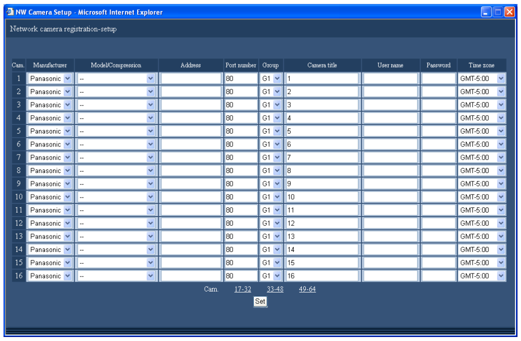
**Important:**

- To call up the camera setup menus, "On" must be selected for [Port forwarding] (page 61).
- A camera setup menu may not be able to display an image.
- Cameras may not be controllable unless the camera's user name and password are entered.

**3** **Click the [Setup] button or the [Setup >>] button for the camera whose settings you want to check or change.**

This will display the [Network camera registration-setup] window. (The setup is shown below)

- To configure the settings of a camera that is not shown on the display, click the applicable camera number range above the [Set] button to change the contents of the display.


NW Camera Setup - Microsoft Internet Explorer

Network camera registration-setup

| Cam. | Manufacturer | Model/Compression | Address | Port number | Group | Camera title | User name | Password | Time zone |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Panasonic | -- | | 80 | G1 | 1 | | | GMT-5:00 |
| 2 | Panasonic | -- | | 80 | G1 | 2 | | | GMT-5:00 |
| 3 | Panasonic | -- | | 80 | G1 | 3 | | | GMT-5:00 |
| 4 | Panasonic | -- | | 80 | G1 | 4 | | | GMT-5:00 |
| 5 | Panasonic | -- | | 80 | G1 | 5 | | | GMT-5:00 |
| 6 | Panasonic | -- | | 80 | G1 | 6 | | | GMT-5:00 |
| 7 | Panasonic | -- | | 80 | G1 | 7 | | | GMT-5:00 |
| 8 | Panasonic | -- | | 80 | G1 | 8 | | | GMT-5:00 |
| 9 | Panasonic | -- | | 80 | G1 | 9 | | | GMT-5:00 |
| 10 | Panasonic | -- | | 80 | G1 | 10 | | | GMT-5:00 |
| 11 | Panasonic | -- | | 80 | G1 | 11 | | | GMT-5:00 |
| 12 | Panasonic | -- | | 80 | G1 | 12 | | | GMT-5:00 |
| 13 | Panasonic | -- | | 80 | G1 | 13 | | | GMT-5:00 |
| 14 | Panasonic | -- | | 80 | G1 | 14 | | | GMT-5:00 |
| 15 | Panasonic | -- | | 80 | G1 | 15 | | | GMT-5:00 |
| 16 | Panasonic | -- | | 80 | G1 | 16 | | | GMT-5:00 |

Cam. 17-32 33-48 49-64
Set

**4** **Check or change the items you want.**
Refer to “NW camera settings 2” table for details about the settings.

**5** **Click the [Set] button.**

### NW camera settings 2

| Item | Settings | Description |
|---|---|---|
| Manufacturer | Panasonic♦ / Axis | Specifies the camera manufacturer. |
| Model/Compression | --♦<br>Model/JPEG<br>Model/M-JPEG<br>Model/MPEG4 | Specifies the camera model and image compression format.<br>Refer to the "readme.txt" file on the CD-ROM for details about camera's model number.<br>Changing the compression format automatically changes the live video and recording rate settings. If you change the setting, reconfigure the rate setting (page 42).<br>• Changing from MPEG-4 to JPEG or M-JPEG will change the rate setting to [1ips].<br>• Changing from JPEG or M-JPEG to MPEG-4 will change the rate setting to [I-Frame].<br>• Changing the compression mode and non-compression mode items at the same time will change the rate setting to [Off]. |
| Address | Address input (Blank♦) | For entering the address of the camera |
| Port number | Port number input (80♦) | For setting the HTTP port used by the camera in the range of 1 to 65535. |
| Group | G1♦ to G8 | Specifies the group to which the camera belongs. |
| Camera title | Title input<br>(Camera 1:1♦ to<br>Camera 64:64♦) | Specifies the camera title, which is displayed on the [Cam. select] box, etc.<br>• The camera title can be made up of up to 16 single-byte numerals and symbols, or 16 two-byte characters. The following characters are not allowed as symbols.<br>"!$%'<=>@[\]^_`{\|}~" |
| User name | Name input<br>(Blank♦) | Specifies the user name for accessing a camera and logging in.<br>• The password can be up to 32 single-byte characters long. |
| Password | Enter password<br>(Blank♦) | Specifies the password for accessing a camera and logging in.<br>• The password can be up to 32 single-byte characters long. |
| Time zone | GMT-12:00 to GMT+13:00<br>NTSC model : (GMT-5:00♦)<br>PAL model : (GMT+0:00♦) | Specifies the time zone of the camera. |

♦Initial default

**Note:**

- When the set camera is disconnected, [CONNECT ERROR] is displayed. In this case, [Model/Compression] is set as [--] for the removed camera on the network camera registration window. Delete the address in [Address].
- If the camera cannot be connected with, the reasons are displayed in the thumbnail. The primarily displayed contents are as follows.

| Item | Description |
|---|---|
| CONNECT ERROR | Could not communicate with the camera. |
| ATTEST ERROR | Camera user authentication failed. |
| DNS ERROR | The DNS server cannot resolve the camera address. |
| CAMERA ERROR | The response from the camera is incorrect. |
| PROXY(CONNECT) ERROR | Cannot connect with the proxy server. |
| PROXY(DNS) ERROR | Cannot resolve the proxy server address. |
| PROXY(CAMERA) ERROR | The response from the proxy server is incorrect. |

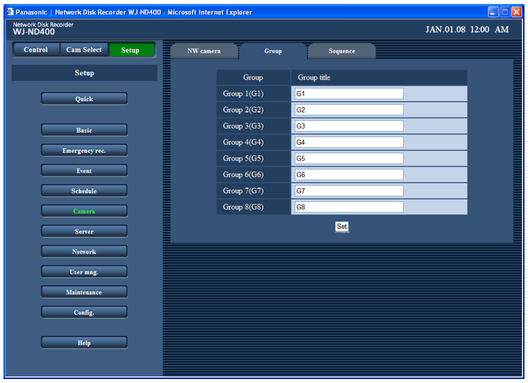
# Group

Use the following procedure to specify the group title of a camera.

**1** **Click the [Camera] button on the setup menu.**

**2** **Click the [Group] tab.**

This will display the "Group Setting" window.



Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
NW camera
Group
Sequence
Set

| Group | Group title |
|---|---|
| Group 1(G1) | G1 |
| Group 2(G2) | G2 |
| Group 3(G3) | G3 |
| Group 4(G4) | G4 |
| Group 5(G5) | G5 |
| Group 6(G6) | G6 |
| Group 7(G7) | G7 |
| Group 8(G8) | G8 |

**3** **Input a group title.**

Refer to “Group settings” table for details about the settings.

**4** **Click the [Set] button.**

## Group settings

| Item | Settings | Description |
|---|---|---|
| Group title | Title input<br>(Group 1: G1♦ to<br>Group 8: G8♦) | Specifies the group title of a camera.<br>• The group title can be made up of up to 16 single-byte numerals and symbols, or 16 two-byte characters. The following characters are not allowed as symbols.<br>"!$%'<=>@[\]^_`{\|}~" |

♦Initial default

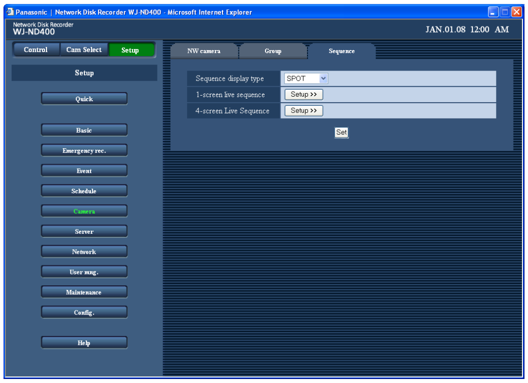
## Sequence

Use the following procedure to configure settings for automatically switching the camera image in a preset sequence.

1 **Click the [Camera] button on the setup menu.**

2 **Click the [Sequence] tab.**

This will display the "Sequence Setting" window.

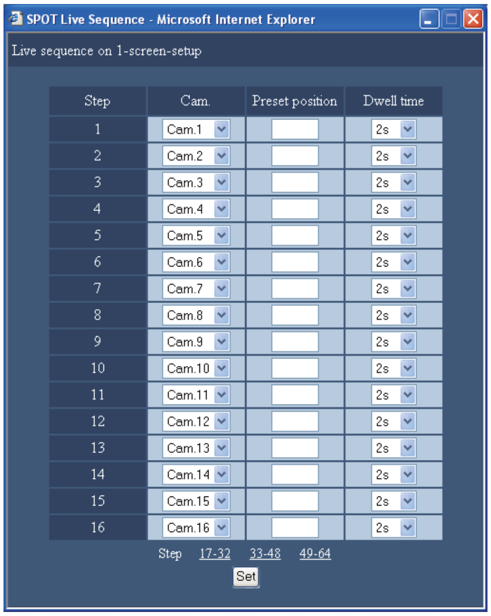

Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
NW camera
Group
Sequence
Set

| | |
|---|---|
| Sequence display type | SPOT |
| 1-screen live sequence | Setup >> |
| 4-screen Live Sequence | Setup >> |

3 **Configure the settings for each item.**

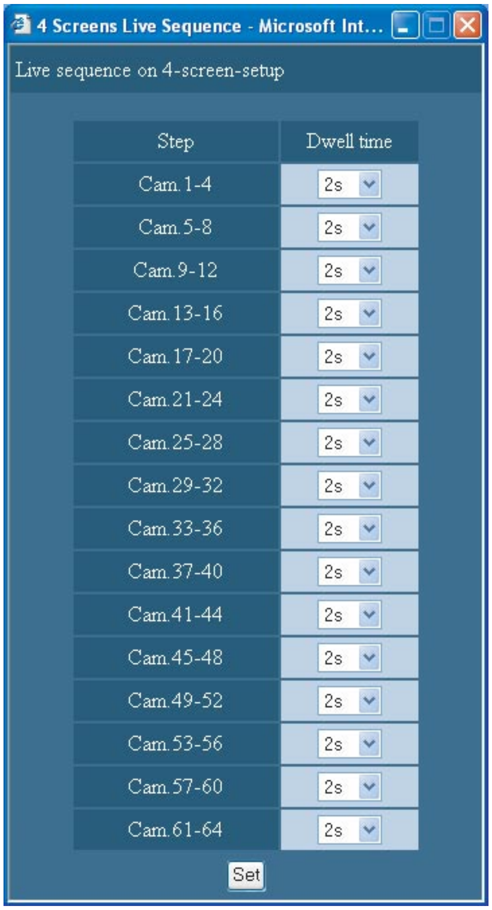
Refer to “Sequence display type settings” table for details about the settings.

- Clicking the [Setup >>] button will display an advanced settings window for the selected sequence.


SPOT Live Sequence - Microsoft Internet Explorer
Live sequence on 1-screen-setup
Set

| Step | Cam. | Preset position | Dwell time |
|---|---|---|---|
| 1 | Cam.1 | | 2s |
| 2 | Cam.2 | | 2s |
| 3 | Cam.3 | | 2s |
| 4 | Cam.4 | | 2s |
| 5 | Cam.5 | | 2s |
| 6 | Cam.6 | | 2s |
| 7 | Cam.7 | | 2s |
| 8 | Cam.8 | | 2s |
| 9 | Cam.9 | | 2s |
| 10 | Cam.10 | | 2s |
| 11 | Cam.11 | | 2s |
| 12 | Cam.12 | | 2s |
| 13 | Cam.13 | | 2s |
| 14 | Cam.14 | | 2s |
| 15 | Cam.15 | | 2s |
| 16 | Cam.16 | | 2s |

Step 17-32 33-48 49-64


4 Screens Live Sequence - Microsoft Int...
Live sequence on 4-screen-setup
Set

| Step | Dwell time |
|---|---|
| Cam.1-4 | 2s |
| Cam.5-8 | 2s |
| Cam.9-12 | 2s |
| Cam.13-16 | 2s |
| Cam.17-20 | 2s |
| Cam.21-24 | 2s |
| Cam.25-28 | 2s |
| Cam.29-32 | 2s |
| Cam.33-36 | 2s |
| Cam.37-40 | 2s |
| Cam.41-44 | 2s |
| Cam.45-48 | 2s |
| Cam.49-52 | 2s |
| Cam.53-56 | 2s |
| Cam.57-60 | 2s |
| Cam.61-64 | 2s |

4 **Click the [Set] button.**

---

**Note:**

- You must change the camera number when you change the 4-screen live sequence display (page 50).
- When the camera image compression format specified for the selected camera channel is MPEG-4, the image is skipped and the next image is displayed.

## Sequence display type settings

| Item | Settings | Description |
|---|---|---|
| Sequence display type | 1-screen♦ / 4-screen | Selects 1-screen or 4-screen during sequence display. |

♦Initial default

## 1-screen live sequence

| Item | Settings | Description |
|---|---|---|
| Cam. | Cam.1 to Cam.64 / -- | Specifies the camera images displayed for each step.<br>• Selecting [--] causes the step to be skipped. |
| Preset position | Signal input<br>(Blank♦) | Specifies the camera preset position (1 to 256).<br>• When this setting is blank, the camera does not move to a preset position. |
| Dwell time | 2s♦ / 3s / 5s / 10s / 20s | Specifies the amount of time until a switch is made to the next step in the sequence. |

♦Initial default

## 4-screen live sequence

| Item | Settings | Description |
|---|---|---|
| Dwell time | 2s♦ / 3s / 5s / 10s / 20s | Specifies the amount of time until a switch is made to the next step in the sequence. |

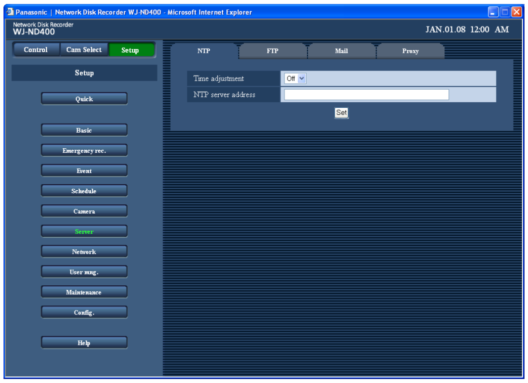
♦Initial default

# Server

## NTP

Configures settings for clock adjustment based on an NTP (Network Time Protocol) server.

1. **Click the [Server] button on the setup menu.**
2. **On the sub-menu that appears, click [NTP].**
   This will display the "NTP Setup" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
NTP
FTP
Mail
Proxy
Set

Time adjustment: Off

NTP server address:

3. **Configure the settings for each item.**
   Refer to “NTP settings” table for details about the settings.
4. **Click the [Set] button.**

### NTP settings

| Item | Settings | Description |
|---|---|---|
| Time adjustment | Off♦ / On | Specifies whether an NTP server is used. |
| NTP server address | Address input<br>(Blank♦) | Enter the name or IP address of the NTP server. When entering a server name, you must use the DNS.<br>• Enter up to 255 single-byte alpha-numeric characters, including hyphen (-) and period (.). |

♦Initial default

**Important:**

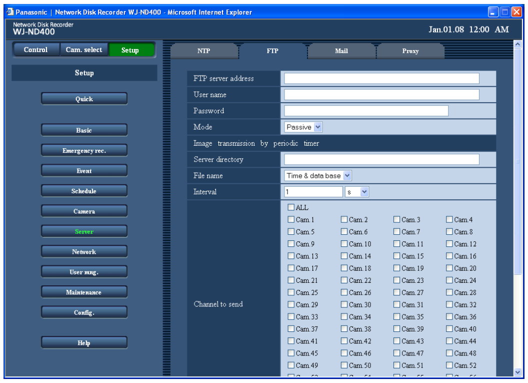
- "Time adjustment" may not operate when the recorder's DHCP setting is [On] and operating, and the time setting for NTP server and recorder are more than 1000 seconds out of sync.
- About the NTP Server Function
  The recorder can operate as a camera's NTP server. When it does, set the port number of the camera to 123.
  For information about camera settings, refer to the camera operating instructions.

# FTP

Use the following procedure to send images from a camera connected to the recorder to a specified FTP server.

**1** **Click the [Server] button on the setup menu.**

**2** **On the sub-menu that appears, click [FTP].**
This will display the "FTP Setup" screen.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
NTP
FTP
Mail
Proxy
☐ ALL
☐ Cam.1 ☐ Cam.2 ☐ Cam.3 ☐ Cam.4
☐ Cam.5 ☐ Cam.6 ☐ Cam.7 ☐ Cam.8
☐ Cam.9 ☐ Cam.10 ☐ Cam.11 ☐ Cam.12
☐ Cam.13 ☐ Cam.14 ☐ Cam.15 ☐ Cam.16
☐ Cam.17 ☐ Cam.18 ☐ Cam.19 ☐ Cam.20
☐ Cam.21 ☐ Cam.22 ☐ Cam.23 ☐ Cam.24
☐ Cam.25 ☐ Cam.26 ☐ Cam.27 ☐ Cam.28
☐ Cam.29 ☐ Cam.30 ☐ Cam.31 ☐ Cam.32
☐ Cam.33 ☐ Cam.34 ☐ Cam.35 ☐ Cam.36
☐ Cam.37 ☐ Cam.38 ☐ Cam.39 ☐ Cam.40
☐ Cam.41 ☐ Cam.42 ☐ Cam.43 ☐ Cam.44
☐ Cam.45 ☐ Cam.46 ☐ Cam.47 ☐ Cam.48
☐ Cam.49 ☐ Cam.50 ☐ Cam.51 ☐ Cam.52

| | |
|---|---|
| FTP server address | |
| User name | |
| Password | |
| Mode | Passive |
| Image transmission by periodic timer | |
| Server directory | |
| File name | Time & data base |
| Interval | 1 s |
| Channel to send | |

**3** **Configure the settings for each item.**
Refer to "FTP settings" table for details about the settings.

**4** **Click the [Set] button.**

### FTP settings

| Item | Settings | Description |
|---|---|---|
| FTP server address | Address input<br>(Blank♦) | Enter the name or IP address of the FTP server where images are sent.<br>• Enter up to 255 single-byte alpha-numeric characters, including hyphen (-) and period (.).<br>• When entering a server name, you must use the DNS. |
| User name | Name input<br>(Blank♦) | Enter the user name (log in name) for accessing the FTP server.<br>• Enter up to 32 single-byte alpha-numeric characters and symbols, excluding ampersand (&) and spaces. |
| Password | Enter password<br>(Blank♦) | Enter the password for the above user name.<br>• Enter up to 32 single-byte alpha-numeric characters and symbols, excluding ampersand (&) and spaces. |
| Mode | Active / Passive♦ | Specifies the mode when sending images to the FTP server.<br>• When send is not possible with [Passive], change to [Active]. |
| Image transmission by periodic timer | | Set the following items to periodically transmit live images. Setting whether or not to transmit live images to the FTP server can be set for scheduled time periods with "Time table (page 46)". |
| Server directory | Name input<br>(Blank♦) | Enter the send destination directory.<br>• Enter up to 255 single-byte alpha-numeric characters and symbols, excluding &*:<>?\|~ and spaces. |
| File name | Time & date base♦/ Serial number | Specify the rules for the file name used for sending images. |
| Interval | Value input<br>s / min (units)<br>(1s♦) | Specifies the interval for image transmission by periodic timer.<br>• Enter single-byte numbers within the range 1 to 1440.<br>• Select either [s] (seconds) or [min] (minutes) as the time unit. |
| Channel to send | Unselected♦ / All /<br>Cam.1 to Cam.64 | Select the camera channel for image transmission by periodic timer. Images from the camera whose check box is selected are sent to the FTP server.<br>• Image transmission by periodic timer cannot be used when the image compression format of the selected camera channel is [MPEG-4]. |

| Item | Settings | Description |
|---|---|---|
| Image transmission by alarm | | Set the following items to transmit images of where an alarm occurs at an event. Setting whether or not to transmit live images to the FTP server where an alarm occurs at an event can be set for scheduled time periods with "Time table (page 46)". |
| Server directory | Name input<br>(Blank♦) | Enter the send destination directory.<br>• Enter up to 255 single-byte alpha-numeric characters and symbols, excluding &*:<>?\|~ and spaces.[*1] |
| Duration-Pre | Off♦ / 1 s to 10 s (Settable in 1-second units.) | Specify the time of the pre-event image to be sent.<br>• Transmission of images to the FTP server may not be possible for "Duration-Pre" when the image compression method of the selected camera channel is [MPEG-4]. |
| Duration-Post | Off / 1 s to 10 s (Settable in 1-second units.)<br>(5s♦) | Specify the time of the post-event image to be sent.<br>• Transmission of images to the FTP server may not be possible for "Duration-Post" when the image compression method of the selected camera channel is [MPEG-4]. |
| Alteration Detection | Off♦ / On | Specifies whether data should be included for alteration detection by the viewer software. |

♦Initial default

*1 You can enter the following single-byte alpha-numeric characters and symbols.
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z
0 1 2 3 4 5 6 7 8 9 ! # $ % ` ( ) + , - . / ; = @ [ ] ^ _ ` { }

**Important:**

- Pre-event images are not sent when pre-event recording is not specified. For information about configuring pre-event recording settings, refer to page 42.

**Note:**

- Images recorded with emergency recording can be transmitted to the FTP server.
  The camera channels transmitted to the FTP server, recorded images, and the directory of the FTP server are as follows.
  - Camera channels to transmit : Camera channel of emergency recording
  - Recorded images : Images recorded from the start of emergency recording to the time set for "Duration-Post".
  - Directory of the FTP server : Directory set under [Image transmission by alarm] - [Server directory] for the FTP server set for [FTP server address].

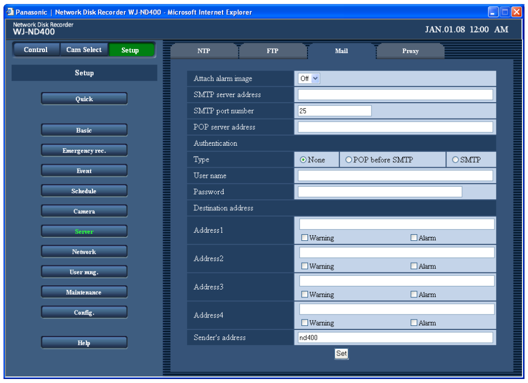
## Mail

Use the following procedure to configure settings for sending alarm mail and for warning mail notification.

**1** **Click the [Server] button on the setup menu.**

**2** **On the sub-menu that appears, click [Mail].**

This will display the [Mail] setup window.



Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
NTP
FTP
Mail
Proxy
Set

| | |
|---|---|
| Attach alarm image | Off |
| SMTP server address | |
| SMTP port number | 25 |
| POP server address | |
| Authentication | |
| Type | ● None ○ POP before SMTP ○ SMTP |
| User name | |
| Password | |
| Destination address | |
| Address1 | ☐ Warning ☐ Alarm |
| Address2 | ☐ Warning ☐ Alarm |
| Address3 | ☐ Warning ☐ Alarm |
| Address4 | ☐ Warning ☐ Alarm |
| Sender's address | nd400 |

**3** **Configure the settings for each item.**

Refer to “Mail settings” table for details about the settings.

**4** **Click the [Set] button.**

## Mail settings

| Item | Settings | Description |
|---|---|---|
| Attach alarm image | Off♦/On | Specifies whether the image when the event occurred should be attached to the mail.<br>• Image attachment is not supported when the compression format specified for the camera image being sent is MPEG-4.<br>• Even if [On] is selected here, the image will not be attached if [Off] is selected for the recording rate setting of event recording. |
| SMTP server address | Address input<br>(Blank♦) | Enter the server name or IP address of the SMTP server sending the mail.<br>• Enter up to 255 single-byte alpha-numeric characters, including hyphen (-) and period (.).<br>• When entering a server name, you must use the DNS. |
| SMTP port number | Port number input (25♦) | Specifies the SMTP port number in the range of 1 to 65535. |
| POP server address | Address input<br>(Blank♦) | Enter the server name or IP address of the POP server receiving the mail.<br>• Enter up to 255 single-byte alpha-numeric characters, including hyphen (-) and period (.).<br>• When entering a server name, you must use the DNS. |
| Authentication | | |
| Type | None♦ / POP before SMTP / SMTP | Specifies the type of authentication when sending e-mails. |
| User name | Name input<br>(Blank♦) | Enter the user name (log in name) used for authentication.<br>• Enter up to 32 single-byte alpha-numeric characters and symbols, excluding ampersand (&) and spaces.*1 |
| Password | Enter password<br>(Blank♦) | Enter the password for the above user name.<br>• Enter up to 32 single-byte alpha-numeric characters and symbols, excluding ampersand (&) and spaces.*1 |
| Destination address | | |
| Address1 to Address4 | Address input<br>(Blank♦) | Specifies destination mail addresses for alarm mail and warning mail. Up to four addresses can be specified.<br>Select the check box next to the type of mail (warning/alarm) to be sent.<br>• Enter up to 255 single-byte alpha-numeric characters, including hyphen (-), period (.), at (@), and underscore (_). |
| Sender's address | Address input<br>(nd400♦) | Enter the sender's mail address. The address entered here will appear in the From field of the recipient's mail message.<br>• Enter up to 127 single-byte alpha-numeric characters, including hyphen (-), period (.), at (@), and underscore (_). |

♦Initial default

*1 You can enter the following single-byte alpha-numeric characters and symbols.
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z
0 1 2 3 4 5 6 7 8 9 ! # $ % ` ( ) * + , - . / : ; < = > ? @ [ \ ] ^ _ { | } ~

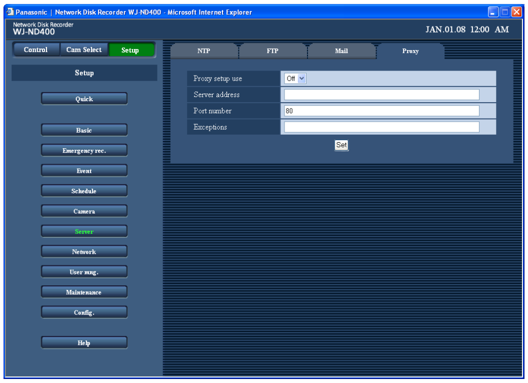
# Proxy

Use the following procedure to configure settings to use the proxy server.

**1** **Click the [Server] button on the setup menu.**

**2** **On the sub-menu that appears, click [Proxy].**

This will display the "Proxy setting" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
NTP
FTP
Mail
Proxy
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Set

Proxy setup use: Off
Server address:
Port number: 80
Exceptions:

**3** **Configure the settings for each item.**

Refer to “Proxy settings” table for details about the settings.

**4** **Click the [Set] button.**

### Proxy settings

| Item | Settings | Description |
|---|---|---|
| Proxy setup use | Off♦ / On | Specifies whether a proxy server is used.<br>• When [On] is selected, configure the [Server address], [Port number], and [Exceptions] settings. |
| Server address | Address input<br>(Blank♦) | Enter the name or IP address of the proxy server. When entering a server name, you must use the DNS.<br>• Enter up to 255 single-byte alpha-numeric characters, including hyphen (-) and period (.). |
| Port number | Port number input<br>(80♦) | Enter the proxy server port number. |
| Exceptions | Address input<br>(Blank♦) | Specifies cameras that do not use the proxy server. Enter the IP addresses of the exception cameras.<br>• Enter up to 128 single-byte alphanumeric characters, including asterisk (*) and period (.).<br>• When specifying multiple addresses, separate them by semicolons (;). You can use the "*" special character to represent any number. |

♦Initial default

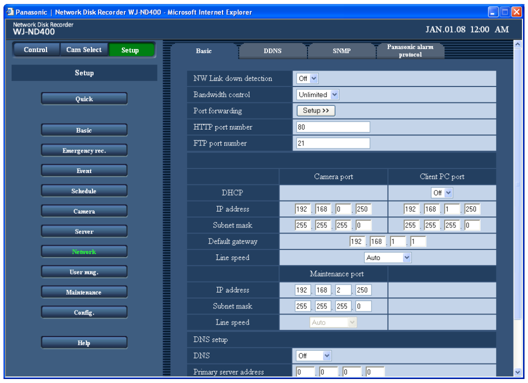
## Basics

This section explains how to configure recorder network settings. Configure network configuration settings like the IP address, default gateway and DNS (Domain Name System) server.

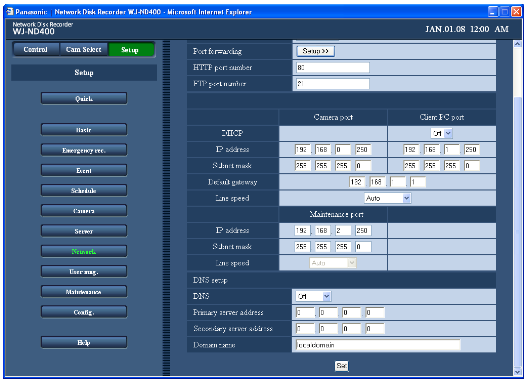
**1 Click the [Network] button on the setup menu.**

**2 On the sub-menu that appears, click [Basic].**

This will display the basic network setting window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Basic
DDNS
SNMP
Panasonic alarm protocol
Setup >>

| | | |
|---|---|---|
| NW Link down detection | Off | |
| Bandwidth control | Unlimited | |
| Port forwarding | Setup >> | |
| HTTP port number | 80 | |
| FTP port number | 21 | |
| | Camera port | Client PC port |
| DHCP | | Off |
| IP address | 192.168.0.250 | 192.168.1.250 |
| Subnet mask | 255.255.255.0 | 255.255.255.0 |
| Default gateway | 192.168.1.1 | |
| Line speed | Auto | |
| | Maintenance port | |
| IP address | 192.168.2.250 | |
| Subnet mask | 255.255.255.0 | |
| Line speed | Auto | |
| DNS setup | | |
| DNS | Off | |
| Primary server address | 0.0.0.0 | |


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Setup >>
Set

| | | |
|---|---|---|
| Port forwarding | Setup >> | |
| HTTP port number | 80 | |
| FTP port number | 21 | |
| | Camera port | Client PC port |
| DHCP | | Off |
| IP address | 192.168.0.250 | 192.168.1.250 |
| Subnet mask | 255.255.255.0 | 255.255.255.0 |
| Default gateway | 192.168.1.1 | |
| Line speed | Auto | |
| | Maintenance port | |
| IP address | 192.168.2.250 | |
| Subnet mask | 255.255.255.0 | |
| Line speed | Auto | |
| DNS setup | | |
| DNS | Off | |
| Primary server address | 0.0.0.0 | |
| Secondary server address | 0.0.0.0 | |
| Domain name | localdomain | |

**3 Configure the settings for each item.**

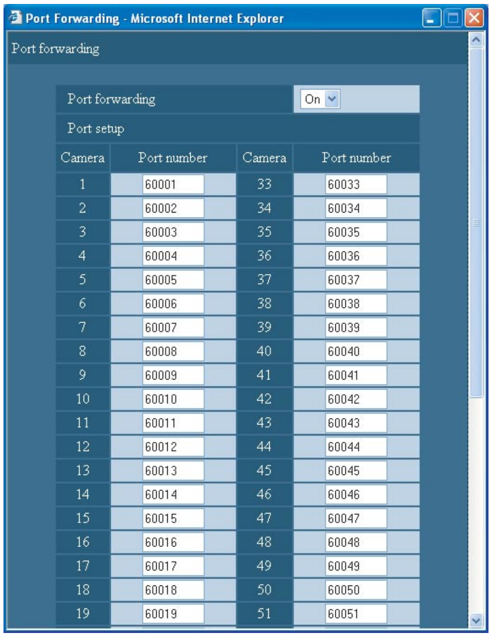
Refer to “Network settings” table for details about setting items.

- If you want to configure port forwarding, do the operations from step 5.

**4 Click the [Set] button.**

**5 Click the port forwarding [Setup >>] button.**

This will display the "Port forwarding" window.

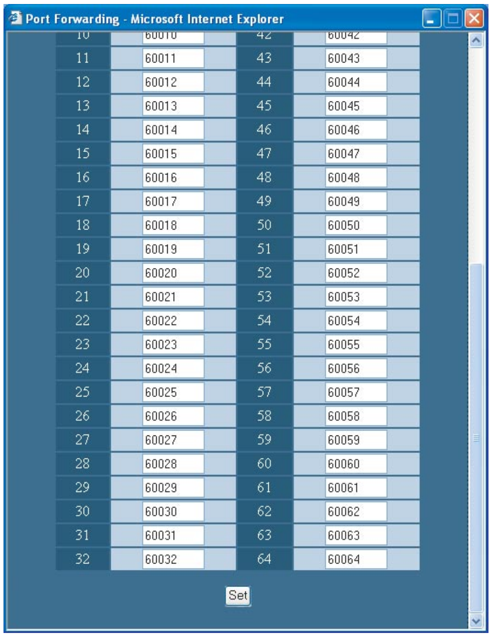

Port Forwarding - Microsoft Internet Explorer

Port forwarding

Port forwarding: On

Port setup

| Camera | Port number | Camera | Port number |
|---|---|---|---|
| 1 | 60001 | 33 | 60033 |
| 2 | 60002 | 34 | 60034 |
| 3 | 60003 | 35 | 60035 |
| 4 | 60004 | 36 | 60036 |
| 5 | 60005 | 37 | 60037 |
| 6 | 60006 | 38 | 60038 |
| 7 | 60007 | 39 | 60039 |
| 8 | 60008 | 40 | 60040 |
| 9 | 60009 | 41 | 60041 |
| 10 | 60010 | 42 | 60042 |
| 11 | 60011 | 43 | 60043 |
| 12 | 60012 | 44 | 60044 |
| 13 | 60013 | 45 | 60045 |
| 14 | 60014 | 46 | 60046 |
| 15 | 60015 | 47 | 60047 |
| 16 | 60016 | 48 | 60048 |
| 17 | 60017 | 49 | 60049 |
| 18 | 60018 | 50 | 60050 |
| 19 | 60019 | 51 | 60051 |


Port Forwarding - Microsoft Internet Explorer
Set

| Camera | Port number | Camera | Port number |
|---|---|---|---|
| 10 | 60010 | 42 | 60042 |
| 11 | 60011 | 43 | 60043 |
| 12 | 60012 | 44 | 60044 |
| 13 | 60013 | 45 | 60045 |
| 14 | 60014 | 46 | 60046 |
| 15 | 60015 | 47 | 60047 |
| 16 | 60016 | 48 | 60048 |
| 17 | 60017 | 49 | 60049 |
| 18 | 60018 | 50 | 60050 |
| 19 | 60019 | 51 | 60051 |
| 20 | 60020 | 52 | 60052 |
| 21 | 60021 | 53 | 60053 |
| 22 | 60022 | 54 | 60054 |
| 23 | 60023 | 55 | 60055 |
| 24 | 60024 | 56 | 60056 |
| 25 | 60025 | 57 | 60057 |
| 26 | 60026 | 58 | 60058 |
| 27 | 60027 | 59 | 60059 |
| 28 | 60028 | 60 | 60060 |
| 29 | 60029 | 61 | 60061 |
| 30 | 60030 | 62 | 60062 |
| 31 | 60031 | 63 | 60063 |
| 32 | 60032 | 64 | 60064 |

**6 Configure the port number settings and then click the [Set] button.**

The Port forwarding window closes.

## Network settings

| Item | Settings | Description |
|---|---|---|
| NW link down detection | Off♦ / On | Specifies whether to detect disconnected network connection of Camera port/Client PC. |
| Bandwidth control | Unlimited♦ / 32Kbps / 64Kbps / 128Kbps / 256Kbps / 512Kbps / 1024Kbps / 2Mbps / 5Mbps / 10Mbps | Specifies the maximum rate for data transmitted to the network.<br>• The transmission amount is not limited in the case of an MPEG-4 live image. |
| Port forwarding | | Specifies whether port forwarding is enabled. To configure this setting, click the [Setup >>] button. |
| HTTP port number | Port number input<br>(80♦) | Sets the HTTP port used when sending images in the range of 1 to 65535. Normally this setting is 80.<br>• Depending on network settings, changing the HTTP port number may make communication impossible. If this happens, contact your network administrator.<br>• Do not specify any of the following numbers for an FTP port number, site alarm port number, or port forwarding port number.<br>20, 21, 23, 25, 42, 53, 67, 68, 69, 79, 105, 110, 123, 161, 162, 546, 547, 995, 10001, 10002, 10003, 10004, 10005, 10006, 10007 |
| FTP port number | Port number input<br>(21♦) | Specifies the recorder FTP port number in the range of 1 to 65535. Normally this setting is 21.<br>• Do not specify any of the following numbers for an HTTP port number, site alarm port number, or port forwarding port number.<br>20, 23, 25, 42, 53, 67, 68, 69, 79, 80, 105, 110, 123, 161, 162, 546, 547, 995, 10001, 10002, 10003, 10004, 10005, 10006, 10007 |
| Network setup - Camera port/Client PC port | | |
| DHCP | Off♦ / On | Specifies whether a DHCP server is used.<br>• Select [On] to obtain the IP address, subnet mask, and default gateway from a DHCP server. Select [Off] to enter them manually. |
| IP address | Address input[*1] | When [DHCP] is [Off], specify the IP address here. |
| Subnet mask | Address input[*1] | When [DHCP] is [Off], specify the subnet mask here. |
| Default gateway | Address input[*1] | When [DHCP] is [Off], specify the default gateway here. |
| Line speed | Auto♦ / 1000M-Full / 100M-Full / 100M-Half / 10M-Full / 10M-Half | Specifies the data line speed. |
| Network setup - Maintenance port | | |
| IP address | Address input[*1] | Specifies the IP address. |
| Subnet mask | Address input[*1] | Specifies the subnet mask. |
| DNS setup | | |
| DNS | Off♦ / Auto / Manual | Specifies whether a DNS is used.<br>• Selecting [Auto] enables auto detection of the DNS server. This setting is available only when [On] is selected for the [DHCP] setting of the Client PC port (page 61).<br>• When [Manual] is selected, a primary address and secondary address can be specified for the DNS server IP address. |
| Primary server address | Address input (0.0.0.0♦) | Enter the IP address of the primary DNS server. |
| Secondary server address | Address input (0.0.0.0♦) | Enter the IP address of the secondary DNS server. |
| Domain name | Name input (local domain♦) | Enter the domain name of the recorder.<br>• Enter up to 255 single-byte alpha-numeric characters, including hyphen (-) and period (.).<br>• Use an alphabetic character as the first character of the domain name. |

♦Initial default

*1 Refer to "Recorder network settings (page 11)" for information on initial default settings.

**Important:**

- A different subnet should be set for each port.
- If DHCP is set to [On] and "SD Memory recording" is set, write requests to the camera's SD memory data may fail at startup. This occurs because the response from the DHCP server is slow. Once the address has been obtained from the DHCP server, the error is resolved.

### Port forwarding

| Item | Settings | Description |
|---|---|---|
| Port forwarding | Off / On♦ | Specifies whether port forwarding is enabled. |
| Port number | Port number input<br>(Camera 1:60001♦ to camera 64:60064♦) | When port forwarding is [On], specifies camera port numbers in the range of 1 to 65535.<br>• Do not specify any of the following numbers for an HTTP port number, FTP port number, site alarm port number, or port forwarding port number.<br>20, 21, 23, 25, 42, 53, 67, 68, 69, 79, 80, 105, 110, 123, 161, 162, 546, 547, 995, 10001, 10002, 10003, 10004, 10005, 10006, 10007 |

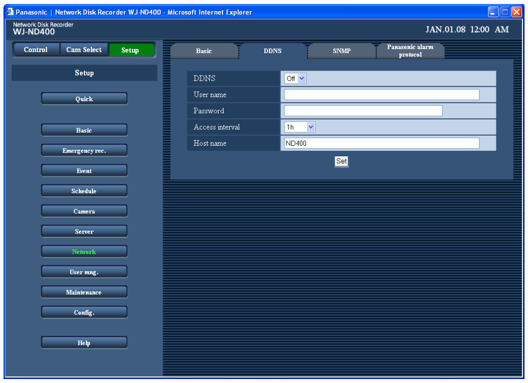
♦Initial default

# DDNS

Use the following procedure to configure settings for using a DDNS (Dynamic Domain Name System).

1 **Click the [Network] button on the setup menu.**

2 **On the sub-menu that appears, click [DDNS].**
This will display the [DDNS] setup window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Basic
DDNS
SNMP
Panasonic alarm protocol
Set

DDNS: Off
User name:
Password:
Access interval: 1h
Host name: ND400

3 **Configure the settings for each item.**
Refer to “DDNS settings” table for details about setting items.

4 **Click the [Set] button.**

## DDNS settings

| Item | Settings | Description |
|---|---|---|
| DDNS | Off♦ / On | Specifies whether a DDNS is used. |
| User name | Name input (Blank♦) | Enter the user name to be registered on the DDNS.<br>• Enter up to 32 single-byte alphanumeric characters and symbols.[*1] |
| Password | Password input (Blank♦) | Enter the password for the above user name.<br>• Enter up to 32 single-byte alphanumeric characters and symbols.[*1] |
| Access interval | 10min / 30min / 1h♦ / 6h / 24h | Specifies the DNS update interval. |
| Host name | Name input (ND400♦) | Enter the host name to be registered on the DDNS.<br>• Enter up to 255 single-byte alpha-numeric characters, including hyphen (-) and period (.). |

♦Initial default

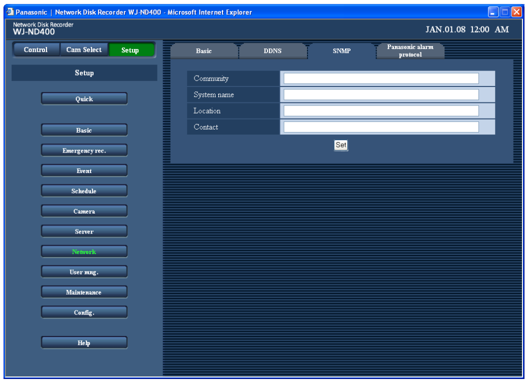
*1 You can enter the following single-byte alpha-numeric characters and symbols.
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z
0 1 2 3 4 5 6 7 8 9 ! # $ % ` ( ) * + , - . / : ; < = > ? @ [\] ^ _ { | } ~

# SNMP

Use the following procedure to configure settings for using SNMP (Simple Network Management Protocol). Configure these settings when connecting to an SNMP manager and check the status of the recorder.

**1** **Click the [Network] button on the setup menu.**

**2** **On the sub-menu that appears, click [SNMP].**
This will display the "SNMP Setup" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Basic
DDNS
SNMP
Panasonic alarm protocol
Community
System name
Location
Contact
Set

**3** **Configure the settings for each item.**
Refer to “SNMP settings” table for details about the settings.

**4** **Click the [Set] button.**

## SNMP settings

| Item | Settings | Description |
|---|---|---|
| Community | Name input<br>(Blank♦) | Enter the community name to be monitored.<br>• Enter up to 32 single-byte alphanumeric characters and symbols.[*1] |
| System name | Name input<br>(Blank♦) | Enter a name to be used by the SNMP system to manage the recorder.<br>• You can input up to 255 single-byte alphanumeric characters. |
| Location | Name input<br>(Blank♦) | Enter the location of the recorder.<br>• You can input up to 255 single-byte alphanumeric characters. |
| Contact | Address input<br>(Blank♦) | Enter contact information (mail address, etc.) for the recorder administrator.<br>• You can input up to 255 single-byte alphanumeric characters. |

♦Initial default

*1 You can enter the following single-byte alpha-numeric characters and symbols.
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z
0 1 2 3 4 5 6 7 8 9 ! # $ % ` ( ) * + , - . / : ; < = > ? @ [ \ ] ^ _ { | } ~

# Panasonic alarm protocol

Use the following procedure to configure settings for sending a message to a preset address whenever an event or error occurs.

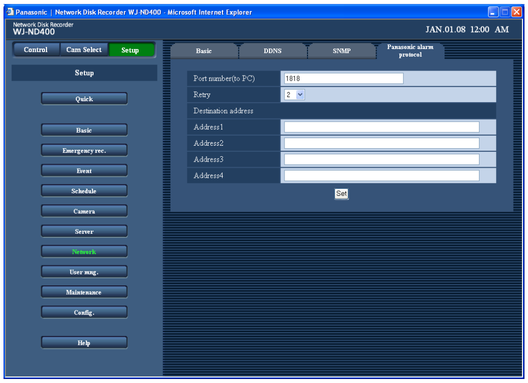
Up to four destinations can be specified.

Special separately available software* must be installed on the PC receiving the notification in order to display the received event or error information.

* Refer to the "readme.txt" file on the CD-ROM for details about the software.

**1** **Click the [Network] button on the setup menu.**

**2** **On the sub-menu that appears, click [Panasonic alarm protocol].**
This will display the "Panasonic Alarm Protocol Settings" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Basic
DDNS
SNMP
Panasonic alarm protocol
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Set

Port number(to PC): 1818
Retry: 2
Destination address
Address1:
Address2:
Address3:
Address4:

**3** **Configure the settings for each item.**
Refer to “Panasonic alarm protocol settings” table for details about the settings.

**4** **Click the [Set] button.**

## Panasonic alarm protocol settings

| Item | Settings | Description |
|---|---|---|
| Port number (to PC) | Port number input (1818♦) | Enter the port number to be used for Panasonic alarm protocol. |
| Retry | 1 to 30 (2♦) | Specifies the number of retries when sending to the PC is unsuccessful. |
| Destination address | | |
| Address1 to 4 | Address input<br>(Blank♦) | Specifies the address of the Panasonic alarm protocol destination PC. Enter an IP address or host name for addresses 1 through 4.<br>• Enter up to 255 single-byte alphanumeric characters, including hyphen (-) and period (.).<br>• When entering a host name, you must use the DNS. |

♦Initial default

# User management

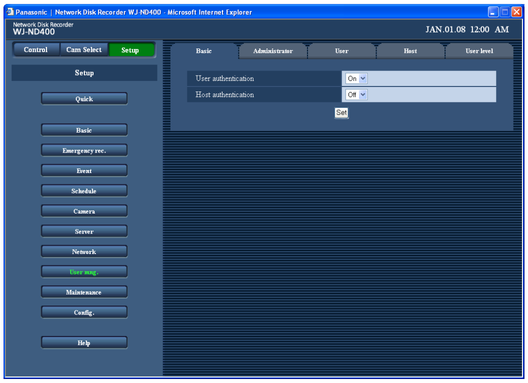
Configure the user and host authentication required to access the recorder from a PC.
It is possible to restrict access by users and hosts (PCs).

## Basics

Use the following procedure to specify whether user and host authentication should be performed.

**1** **Click the [User mng.] button on the setup menu.**

**2** **On the sub-menu that appears, click [Basic].**
This displays the basic user management settings window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Basic
Administrator
User
Host
User level
Set

User authentication: On
Host authentication: Off

**3** **Configure the settings for each item.**
Refer to “Basic user management settings” table for details about the settings.

**4** **Click the [Set] button.**

### Basic user management settings

| Item | Settings | Description |
|---|---|---|
| User authentication | Off / On♦ | Specifies whether user authentication should be performed. |
| Host authentication | Off♦ / On | Specifies whether host authentication should be performed.<br>• [On] cannot be selected for host authentication unless the host is registered. First perform settings for the "Hosts (page 71)". |

♦Initial default

# Administrator

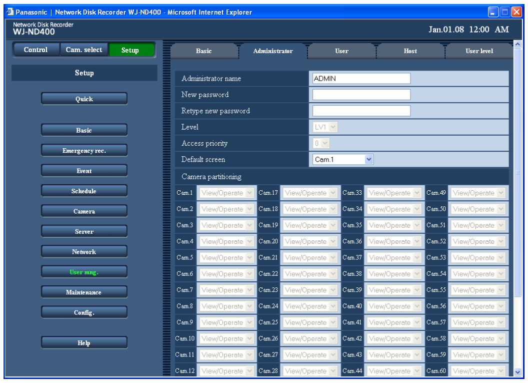
Use the following procedure to configure settings to assign recorder administrator privileges to a user (administrator).

The administrator name and password can be changed, and the operation level and other operation privileges can be configured.

**1** **Click the [User mng.] button on the setup menu.**

**2** **On the sub-menu that appears, click [Administrator].**

This will display the "Administrator Settings" window.



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Administrator name | ADMIN | | | | | | |
| New password | | | | | | | |
| Retype new password | | | | | | | |
| Level | LV1 | | | | | | |
| Access priority | 0 | | | | | | |
| Default screen | Cam.1 | | | | | | |
| Camera partitioning | | | | | | | |
| Cam.1 | View/Operate | Cam.17 | View/Operate | Cam.33 | View/Operate | Cam.49 | View/Operate |
| Cam.2 | View/Operate | Cam.18 | View/Operate | Cam.34 | View/Operate | Cam.50 | View/Operate |
| Cam.3 | View/Operate | Cam.19 | View/Operate | Cam.35 | View/Operate | Cam.51 | View/Operate |
| Cam.4 | View/Operate | Cam.20 | View/Operate | Cam.36 | View/Operate | Cam.52 | View/Operate |
| Cam.5 | View/Operate | Cam.21 | View/Operate | Cam.37 | View/Operate | Cam.53 | View/Operate |
| Cam.6 | View/Operate | Cam.22 | View/Operate | Cam.38 | View/Operate | Cam.54 | View/Operate |
| Cam.7 | View/Operate | Cam.23 | View/Operate | Cam.39 | View/Operate | Cam.55 | View/Operate |
| Cam.8 | View/Operate | Cam.24 | View/Operate | Cam.40 | View/Operate | Cam.56 | View/Operate |
| Cam.9 | View/Operate | Cam.25 | View/Operate | Cam.41 | View/Operate | Cam.57 | View/Operate |
| Cam.10 | View/Operate | Cam.26 | View/Operate | Cam.42 | View/Operate | Cam.58 | View/Operate |
| Cam.11 | View/Operate | Cam.27 | View/Operate | Cam.43 | View/Operate | Cam.59 | View/Operate |
| Cam.12 | View/Operate | Cam.28 | View/Operate | Cam.44 | View/Operate | Cam.60 | View/Operate |

**3** **Configure the settings for each item.**

Refer to “Administrator settings” table for details about the settings.

**4** **Click the [Set] button.**

**Important:**

- Administrator settings can be configured only by a user who is logged in as an administrator.
- If you do not change the administrator password, a prompt to change the password will appear on the display after log in.

### Administrator settings

| Item | Settings | Description |
|---|---|---|
| Administrator name | Name input<br>(ADMIN♦) | Change the administrator name here.<br>• Enter between 5 and 14 single-byte alphanumeric characters. |
| New password<br>Retype new password | Enter password<br>(Blank♦) | Enters the password.<br>• Enter between 5 and 8 single-byte alphanumeric characters.<br>• Use a password that is not easily guessable by another person. Also, take care that you do not forget the password.<br>• To ensure security, change passwords periodically. |
| Level | LV1♦ | Shows the user level. The level of the administrator is [LV1], which cannot be changed.<br>• For operations that can be performed at each level, refer to "User level (page 73)". |
| Access priority | 0♦ | Shows the priority sequence for operations when multiple users are logged in on the recorder at the same time. The access priority of the administrator is [0] (highest), which cannot be changed. |
| Default screen | [Cam.1]♦ to [Cam.64] / [Cam.1-4] / [Cam.5-8] / to / [Cam.61-64] / [Seq] | Specifies the live image displayed immediately after log in.<br>• [Selecting [Cam.1] to [Cam.64] displays the images of the selected cameras on a 1-image screen.<br>• Selecting [Cam.1-4] to [Cam.61-64] displays the live images of the selected cameras on a 4-image screen.<br>• Selecting [Seq] displays images in a specified sequence. |
| Camera partitioning | [View/Operate]♦ | Shows the scope of control for each camera channel. The scope of the administrator is [View/Operate], which cannot be changed. |

♦Initial default

# Users

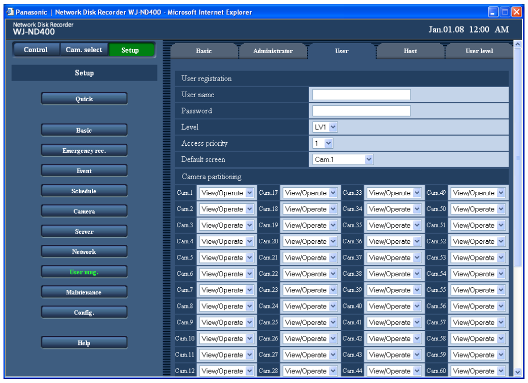
Use the following procedure to configure information (user name, password, operation level, etc.) about recorder users.

Up to 32 users can be registered.

**1** **Click the [User mng.] button on the setup menu.**

**2** **On the sub-menu that appears, click [User].**

This will display the "User Settings" window.



User registration

| | |
|---|---|
| User name | |
| Password | |
| Level | LV1 |
| Access priority | 1 |
| Default screen | Cam.1 |

Camera partitioning

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cam.1 | View/Operate | Cam.17 | View/Operate | Cam.33 | View/Operate | Cam.49 | View/Operate |
| Cam.2 | View/Operate | Cam.18 | View/Operate | Cam.34 | View/Operate | Cam.50 | View/Operate |
| Cam.3 | View/Operate | Cam.19 | View/Operate | Cam.35 | View/Operate | Cam.51 | View/Operate |
| Cam.4 | View/Operate | Cam.20 | View/Operate | Cam.36 | View/Operate | Cam.52 | View/Operate |
| Cam.5 | View/Operate | Cam.21 | View/Operate | Cam.37 | View/Operate | Cam.53 | View/Operate |
| Cam.6 | View/Operate | Cam.22 | View/Operate | Cam.38 | View/Operate | Cam.54 | View/Operate |
| Cam.7 | View/Operate | Cam.23 | View/Operate | Cam.39 | View/Operate | Cam.55 | View/Operate |
| Cam.8 | View/Operate | Cam.24 | View/Operate | Cam.40 | View/Operate | Cam.56 | View/Operate |
| Cam.9 | View/Operate | Cam.25 | View/Operate | Cam.41 | View/Operate | Cam.57 | View/Operate |
| Cam.10 | View/Operate | Cam.26 | View/Operate | Cam.42 | View/Operate | Cam.58 | View/Operate |
| Cam.11 | View/Operate | Cam.27 | View/Operate | Cam.43 | View/Operate | Cam.59 | View/Operate |
| Cam.12 | View/Operate | Cam.28 | View/Operate | Cam.44 | View/Operate | Cam.60 | View/Operate |

**3** **Configure the settings for each item.**

Refer to “User setups” table for details about the settings.

**4** **Click the [Registration] button.**

**5** **If you want to configure settings for more users, repeat steps 3 and 4.**

**6** **To complete user registration, click the [Set] button.**

## User setups

| Item | Settings | Description |
|---|---|---|
| User name | Name input<br>(Blank♦) | Enters the user name.<br>• Enter between 5 and 14 single-byte alphanumeric characters. |
| Password | Enter password<br>(Blank♦) | Enters the password.<br>• Enter between 5 and 8 single-byte alphanumeric characters.<br>• Use a password that is not easily guessable by another person. Also, take care that you do not forget the password.<br>• To ensure security, change passwords periodically. |
| Level | LV1♦ / LV2 / LV3 / LV4 | Specifies the user level.<br>• For operations that can be performed at each level, refer to "User level (page 73)". |
| Access priority | 1♦ to 16 | Specifies the priority sequence for operations when multiple users are logged in on the recorder at the same time. |
| Default screen | [Cam.1]♦ to [Cam.64] / [Cam.1-4] / [Cam.5-8] / to / [Cam.61-64] / [Seq] | Specifies the live image display immediately after log in.<br>• Selecting [Cam.1] to [Cam.64] displays the images of the selected cameras on a 1-image screen.<br>• Selecting [Cam.1-4] to [Cam.61-64] displays the live images of the selected cameras on a 4-image screen.<br>• Selecting [Seq] displays images in a specified sequence. |
| Camera partitioning | [View/Operate]♦ / [View] / [--] | Specifies the scope of control for each camera channel.<br>• When [View/Operate] is selected, live/recorded image display or camera operation can be performed.<br>• When [View] is selected, live/recorded image display can be performed, but camera operation cannot.<br>• When [--] is selected, neither live/recorded image display nor camera operation can be performed. |

♦Initial default

**Important:**

- You must click press the [Set] button to activate settings on the recorder when registering, editing, or deleting users.

**Note:**

- Clicking the [Registration] button does not log out other users.

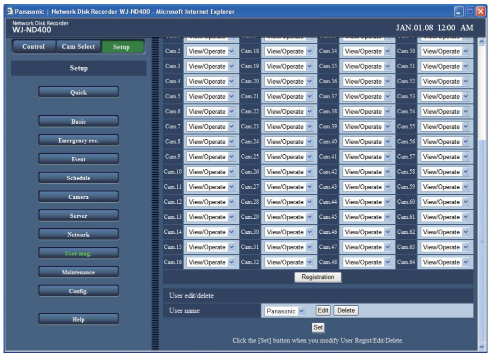
## Editing user information

**1** **Click the [User mng.] button on the setup menu.**

**2** **On the sub-menu that appears, click [User].**

This will display the "User settings" window.

**3** **In "User edit/delete" select the name of the user you want to edit.**



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cam.2 | View/Operate | Cam.18 | View/Operate | Cam.34 | View/Operate | Cam.50 | View/Operate |
| Cam.3 | View/Operate | Cam.19 | View/Operate | Cam.35 | View/Operate | Cam.51 | View/Operate |
| Cam.4 | View/Operate | Cam.20 | View/Operate | Cam.36 | View/Operate | Cam.52 | View/Operate |
| Cam.5 | View/Operate | Cam.21 | View/Operate | Cam.37 | View/Operate | Cam.53 | View/Operate |
| Cam.6 | View/Operate | Cam.22 | View/Operate | Cam.38 | View/Operate | Cam.54 | View/Operate |
| Cam.7 | View/Operate | Cam.23 | View/Operate | Cam.39 | View/Operate | Cam.55 | View/Operate |
| Cam.8 | View/Operate | Cam.24 | View/Operate | Cam.40 | View/Operate | Cam.56 | View/Operate |
| Cam.9 | View/Operate | Cam.25 | View/Operate | Cam.41 | View/Operate | Cam.57 | View/Operate |
| Cam.10 | View/Operate | Cam.26 | View/Operate | Cam.42 | View/Operate | Cam.58 | View/Operate |
| Cam.11 | View/Operate | Cam.27 | View/Operate | Cam.43 | View/Operate | Cam.59 | View/Operate |
| Cam.12 | View/Operate | Cam.28 | View/Operate | Cam.44 | View/Operate | Cam.60 | View/Operate |
| Cam.13 | View/Operate | Cam.29 | View/Operate | Cam.45 | View/Operate | Cam.61 | View/Operate |
| Cam.14 | View/Operate | Cam.30 | View/Operate | Cam.46 | View/Operate | Cam.62 | View/Operate |
| Cam.15 | View/Operate | Cam.31 | View/Operate | Cam.47 | View/Operate | Cam.63 | View/Operate |
| Cam.16 | View/Operate | Cam.32 | View/Operate | Cam.48 | View/Operate | Cam.64 | View/Operate |

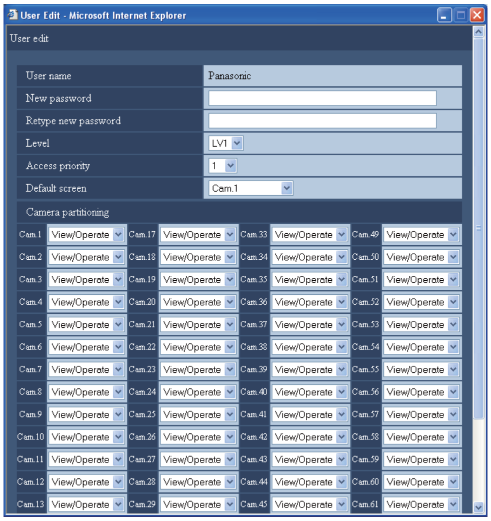
User edit/delete

User name: Panasonic

Click the [Set] button when you modify User Regist/Edit/Delete.

**4** **Click the [Edit] button.**

This will display the "User edit" window.



| | |
|---|---|
| User name | Panasonic |
| New password | |
| Retype new password | |
| Level | LV1 |
| Access priority | 1 |
| Default screen | Cam.1 |

Camera partitioning

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cam.1 | View/Operate | Cam.17 | View/Operate | Cam.33 | View/Operate | Cam.49 | View/Operate |
| Cam.2 | View/Operate | Cam.18 | View/Operate | Cam.34 | View/Operate | Cam.50 | View/Operate |
| Cam.3 | View/Operate | Cam.19 | View/Operate | Cam.35 | View/Operate | Cam.51 | View/Operate |
| Cam.4 | View/Operate | Cam.20 | View/Operate | Cam.36 | View/Operate | Cam.52 | View/Operate |
| Cam.5 | View/Operate | Cam.21 | View/Operate | Cam.37 | View/Operate | Cam.53 | View/Operate |
| Cam.6 | View/Operate | Cam.22 | View/Operate | Cam.38 | View/Operate | Cam.54 | View/Operate |
| Cam.7 | View/Operate | Cam.23 | View/Operate | Cam.39 | View/Operate | Cam.55 | View/Operate |
| Cam.8 | View/Operate | Cam.24 | View/Operate | Cam.40 | View/Operate | Cam.56 | View/Operate |
| Cam.9 | View/Operate | Cam.25 | View/Operate | Cam.41 | View/Operate | Cam.57 | View/Operate |
| Cam.10 | View/Operate | Cam.26 | View/Operate | Cam.42 | View/Operate | Cam.58 | View/Operate |
| Cam.11 | View/Operate | Cam.27 | View/Operate | Cam.43 | View/Operate | Cam.59 | View/Operate |
| Cam.12 | View/Operate | Cam.28 | View/Operate | Cam.44 | View/Operate | Cam.60 | View/Operate |
| Cam.13 | View/Operate | Cam.29 | View/Operate | Cam.45 | View/Operate | Cam.61 | View/Operate |

**5** **Configure the settings for each item.**

Refer to “User setups” table for details about the settings.

**6** **Click the [Registration] button.**

**7** **Click the [Set] button.**

This will close the "User edit" window.

## Deleting user information

**1** **Click the [User mng.] button on the setup menu.**

**2** **On the sub-menu that appears, click [User].**

This will display the "User settings" window.

**3** **In "User edit/delete" select the name of the user you want to delete.**

**4** **Click the [Delete] button.**

**5** **Click the [Set] button.**

**Important:**

- Clicking the [Set] button applies the registered settings, and forcibly logs out all users, including the user who clicked the [Set] button.

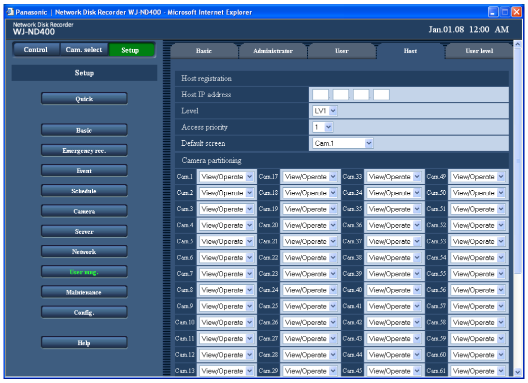
# Hosts

The following procedure is to register information for PCs (hosts) that can access the camera over a network.

Up to 32 hosts can be registered.

**1** **Click the [User mng.] button on the setup menu.**

**2** **On the sub-menu that appears, click [Host].**
This will display the "Host setting" window.



Host registration

Host IP address

Level: LV1

Access priority: 1

Default screen: Cam.1

Camera partitioning

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cam.1 | View/Operate | Cam.17 | View/Operate | Cam.33 | View/Operate | Cam.49 | View/Operate |
| Cam.2 | View/Operate | Cam.18 | View/Operate | Cam.34 | View/Operate | Cam.50 | View/Operate |
| Cam.3 | View/Operate | Cam.19 | View/Operate | Cam.35 | View/Operate | Cam.51 | View/Operate |
| Cam.4 | View/Operate | Cam.20 | View/Operate | Cam.36 | View/Operate | Cam.52 | View/Operate |
| Cam.5 | View/Operate | Cam.21 | View/Operate | Cam.37 | View/Operate | Cam.53 | View/Operate |
| Cam.6 | View/Operate | Cam.22 | View/Operate | Cam.38 | View/Operate | Cam.54 | View/Operate |
| Cam.7 | View/Operate | Cam.23 | View/Operate | Cam.39 | View/Operate | Cam.55 | View/Operate |
| Cam.8 | View/Operate | Cam.24 | View/Operate | Cam.40 | View/Operate | Cam.56 | View/Operate |
| Cam.9 | View/Operate | Cam.25 | View/Operate | Cam.41 | View/Operate | Cam.57 | View/Operate |
| Cam.10 | View/Operate | Cam.26 | View/Operate | Cam.42 | View/Operate | Cam.58 | View/Operate |
| Cam.11 | View/Operate | Cam.27 | View/Operate | Cam.43 | View/Operate | Cam.59 | View/Operate |
| Cam.12 | View/Operate | Cam.28 | View/Operate | Cam.44 | View/Operate | Cam.60 | View/Operate |
| Cam.13 | View/Operate | Cam.29 | View/Operate | Cam.45 | View/Operate | Cam.61 | View/Operate |

**3** **Configure the settings for each item.**
Refer to “Host settings” table for details about the settings.

**4** **Click the [Set] button.**

## Host settings

| Item | Settings | Description |
|---|---|---|
| Host IP address | Address input (Blank♦) | Enter the IP address.<br>• Enter single-byte numerals in the range of 0 to 255.<br>• You can use the "*" special character to represent any number.<br>• "0.0.0.0" or "*.*.*.*" cannot be registered. |
| Level | LV1♦ / LV2 / LV3 / LV4 | Specifies the user level.<br>• For operations that can be performed at each level, refer to "User level (page 73)". |
| Access priority | 1♦ to 16 | Specifies the priority sequence for operations when multiple users are logged in on the recorder at the same time. |
| Default screen | [Cam.1]♦ to [Cam.64] / [Cam.1-4] / [Cam.5-8] / to / [Cam.61-64] / [Seq] | Specifies the live image display immediately after log in.<br>• Selecting [Cam.1] to [Cam.64] displays the images of the selected cameras on a 1-image screen.<br>• Selecting [Cam.1-4] to [Cam.61-64] displays the live images of the selected cameras on a 4-image screen.<br>• Selecting [Seq] displays images in a specified sequence. |
| Camera partitioning | [View/Operate]♦ / [View] / [--] | Specifies the scope of control for each camera channel.<br>• When [View/Operate] is selected, live/recorded image display or camera operation can be performed.<br>• When [View] is selected, live/recorded image display can be performed, but camera operation cannot.<br>• When [--] is selected, neither live/recorded image display nor camera operation can be performed. |

♦Initial default

**Important:**
- You must click press the [Set] button to activate settings on the recorder when registering, editing, or deleting hosts.

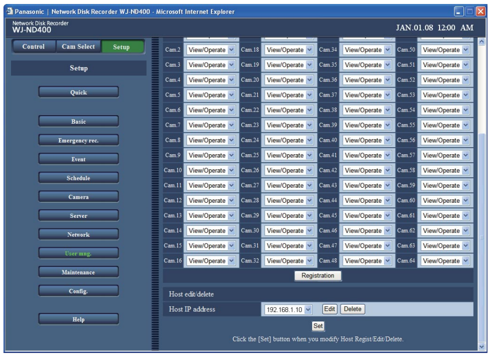
**Note:**
- Clicking the [Registration] button does not log out other users.

## Editing host information

**1** **Click the [User mng.] button on the setup menu.**

**2** **On the sub-menu that appears, click [Host].**
This will display the "Host setting" window.

**3** **In "Host edit/delete" select the name of the host you want to edit.**



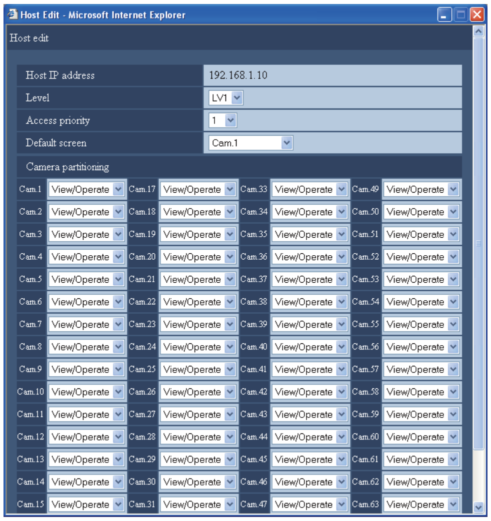
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cam.2 | View/Operate | Cam.18 | View/Operate | Cam.34 | View/Operate | Cam.50 | View/Operate |
| Cam.3 | View/Operate | Cam.19 | View/Operate | Cam.35 | View/Operate | Cam.51 | View/Operate |
| Cam.4 | View/Operate | Cam.20 | View/Operate | Cam.36 | View/Operate | Cam.52 | View/Operate |
| Cam.5 | View/Operate | Cam.21 | View/Operate | Cam.37 | View/Operate | Cam.53 | View/Operate |
| Cam.6 | View/Operate | Cam.22 | View/Operate | Cam.38 | View/Operate | Cam.54 | View/Operate |
| Cam.7 | View/Operate | Cam.23 | View/Operate | Cam.39 | View/Operate | Cam.55 | View/Operate |
| Cam.8 | View/Operate | Cam.24 | View/Operate | Cam.40 | View/Operate | Cam.56 | View/Operate |
| Cam.9 | View/Operate | Cam.25 | View/Operate | Cam.41 | View/Operate | Cam.57 | View/Operate |
| Cam.10 | View/Operate | Cam.26 | View/Operate | Cam.42 | View/Operate | Cam.58 | View/Operate |
| Cam.11 | View/Operate | Cam.27 | View/Operate | Cam.43 | View/Operate | Cam.59 | View/Operate |
| Cam.12 | View/Operate | Cam.28 | View/Operate | Cam.44 | View/Operate | Cam.60 | View/Operate |
| Cam.13 | View/Operate | Cam.29 | View/Operate | Cam.45 | View/Operate | Cam.61 | View/Operate |
| Cam.14 | View/Operate | Cam.30 | View/Operate | Cam.46 | View/Operate | Cam.62 | View/Operate |
| Cam.15 | View/Operate | Cam.31 | View/Operate | Cam.47 | View/Operate | Cam.63 | View/Operate |
| Cam.16 | View/Operate | Cam.32 | View/Operate | Cam.48 | View/Operate | Cam.64 | View/Operate |

Host edit/delete

Host IP address: 192.168.1.10

Click the [Set] button when you modify Host Regist/Edit/Delete.

**4** **Click the [Edit] button.**
This will display the [Host edit] window.



Host edit

| | |
|---|---|
| Host IP address | 192.168.1.10 |
| Level | LV1 |
| Access priority | 1 |
| Default screen | Cam.1 |

Camera partitioning

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cam.1 | View/Operate | Cam.17 | View/Operate | Cam.33 | View/Operate | Cam.49 | View/Operate |
| Cam.2 | View/Operate | Cam.18 | View/Operate | Cam.34 | View/Operate | Cam.50 | View/Operate |
| Cam.3 | View/Operate | Cam.19 | View/Operate | Cam.35 | View/Operate | Cam.51 | View/Operate |
| Cam.4 | View/Operate | Cam.20 | View/Operate | Cam.36 | View/Operate | Cam.52 | View/Operate |
| Cam.5 | View/Operate | Cam.21 | View/Operate | Cam.37 | View/Operate | Cam.53 | View/Operate |
| Cam.6 | View/Operate | Cam.22 | View/Operate | Cam.38 | View/Operate | Cam.54 | View/Operate |
| Cam.7 | View/Operate | Cam.23 | View/Operate | Cam.39 | View/Operate | Cam.55 | View/Operate |
| Cam.8 | View/Operate | Cam.24 | View/Operate | Cam.40 | View/Operate | Cam.56 | View/Operate |
| Cam.9 | View/Operate | Cam.25 | View/Operate | Cam.41 | View/Operate | Cam.57 | View/Operate |
| Cam.10 | View/Operate | Cam.26 | View/Operate | Cam.42 | View/Operate | Cam.58 | View/Operate |
| Cam.11 | View/Operate | Cam.27 | View/Operate | Cam.43 | View/Operate | Cam.59 | View/Operate |
| Cam.12 | View/Operate | Cam.28 | View/Operate | Cam.44 | View/Operate | Cam.60 | View/Operate |
| Cam.13 | View/Operate | Cam.29 | View/Operate | Cam.45 | View/Operate | Cam.61 | View/Operate |
| Cam.14 | View/Operate | Cam.30 | View/Operate | Cam.46 | View/Operate | Cam.62 | View/Operate |
| Cam.15 | View/Operate | Cam.31 | View/Operate | Cam.47 | View/Operate | Cam.63 | View/Operate |

**5** **Configure the settings for each item.**
Refer to “Host settings” table for details about the settings.

**6** **Click the [Registration] button.**

**7** **Click the [Set] button.**

## Deleting host information

**1** **Click the [User mng.] button on the setup menu.**

**2** **On the sub-menu that appears, click [Host].**
This will display the "Host setting" window.

**3** **In "Host edit/delete" select the name of the host you want to delete.**

**4** **Click the [Delete] button.**

**5** **Click the [Set] button.**

**Important:**

- Clicking the [Set] button applies the registered settings, and forcibly logs out all users, including the user who clicked the [Set] button.

# User level

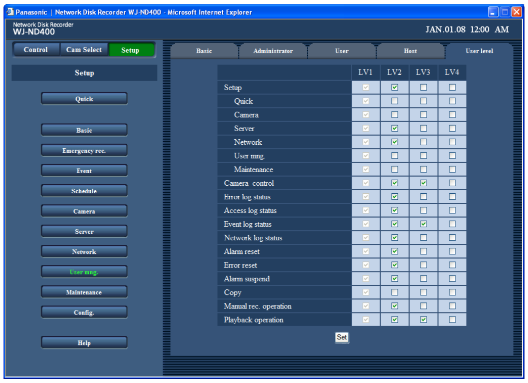
Use the following procedure to define which operations can be performed at each user level.

You can specify functions that can be accessed at each user level (LV1/LV2/LV3/LV4).

**1** **Click the [User mng.] button on the setup menu.**

**2** **On the sub-menu that appears, click [User level].**

This will display the "User level Settings" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Basic
Administrator
User
Host
User level
Set

| | LV1 | LV2 | LV3 | LV4 |
|---|---|---|---|---|
| Setup | ☑ | ☑ | ☐ | ☐ |
| Quick | ☑ | ☐ | ☐ | ☐ |
| Camera | ☑ | ☐ | ☐ | ☐ |
| Server | ☑ | ☑ | ☐ | ☐ |
| Network | ☑ | ☑ | ☐ | ☐ |
| User mng. | ☑ | ☐ | ☐ | ☐ |
| Maintenance | ☑ | ☐ | ☐ | ☐ |
| Camera control | ☑ | ☑ | ☑ | ☐ |
| Error log status | ☑ | ☑ | ☐ | ☐ |
| Access log status | ☑ | ☑ | ☐ | ☐ |
| Event log status | ☑ | ☑ | ☑ | ☐ |
| Network log status | ☑ | ☑ | ☐ | ☐ |
| Alarm reset | ☑ | ☑ | ☐ | ☐ |
| Error reset | ☑ | ☑ | ☐ | ☐ |
| Alarm suspend | ☑ | ☑ | ☐ | ☐ |
| Copy | ☑ | ☐ | ☐ | ☐ |
| Manual rec. operation | ☑ | ☑ | ☐ | ☐ |
| Playback operation | ☑ | ☑ | ☑ | ☐ |

**3** **Configure the settings for each item.**

Refer to "User level settings" table for details about the settings.

**4** **Click the [Set] button.**

**Note:**

- The functions that can be used at each user level are as follows at default.

LV1 : Level of the administrator who can perform all operations for the camera and recorder.

LV2 : High level operator with limits who can view recorder settings and logs and reset alarms.

LV3 : A general operator who can perform playback and monitoring.

LV4 : Operator who can only monitor (playback unavailable).

## User level settings

| Item | Settings | Description |
|---|---|---|
| Setup | Checked[*1*2] / Unchecked[*3*4] | Modification of some settings ([Basic], [Emergency rec.], [Event], [Schedule], [Config.]) allowed in setup menu display. |
| Quick | Checked[*1] / Unchecked[*2*3*4] | Modification of setup menu [Quick] settings allowed. |
| Camera | Checked[*1] / Unchecked[*2*3*4] | Modification of setup menu [Camera] settings allowed. |
| Server | Checked[*1*2] / Unchecked[*3*4] | Modification of setup menu [Server] settings allowed. |
| Network | Checked[*1*2] / Unchecked[*3*4] | Modification of setup menu [Network] settings allowed. |
| User mng. | Checked[*1] / Unchecked[*2*3*4] | Modification of setup menu [User mng.] settings allowed. |
| Maintenance | Checked[*1] / Unchecked[*2*3*4] | Modification of setup menu [Maintenance] settings allowed. |
| Camera control | Checked[*1*2*3] / Unchecked[*4] | Pan, tilt, and other camera control allowed. |
| Error log status | Checked[*1*2] / Unchecked[*3*4] | Error log access allowed.<br>(refer to the Operating Instructions (PDF file)) |
| Access log status | Checked[*1*2] / Unchecked[*3*4] | Access log access allowed.<br>(refer to the Operating Instructions (PDF file)) |
| Event log status | Checked[*1*2*3] / Unchecked[*4] | Event log access allowed.<br>(refer to the Operating Instructions (PDF file)) |
| Network log status | Checked[*1*2] / Unchecked[*3*4] | Network log access allowed.<br>(refer to the Operating Instructions (PDF file)) |
| Alarm reset | Checked[*1*2] / Unchecked[*3*4] | Alarm action reset allowed.<br>(refer to the Operating Instructions (PDF file)) |
| Error reset | Checked[*1*2] / Unchecked[*3*4] | Error action reset allowed.<br>(refer to the Operating Instructions (PDF file)) |
| Alarm suspend | Checked[*1*2] / Unchecked[*3*4] | Alarm action suspend allowed.<br>(refer to the Operating Instructions (PDF file)) |
| Copy | Checked[*1] / Unchecked[*2*3*4] | Copy recorded images to the Copy area.<br>(refer to the Operating Instructions (PDF file)) |
| Manual rec. operation | Checked[*1*2] / Unchecked[*3*4] | Manual recording start/stop allowed. |
| Playback operation | Checked[*1*2*3] / Unchecked[*4] | Recorded image playback allowed. |

[*1] LV1 initial default setting

[*2] LV2 initial default setting

[*3] LV3 initial default setting

[*4] LV4 initial default setting

**Note:**

- Selecting the [Quick], [Camera], [Server], [Network], [User mng.], or [Maintenance] check box will cause the [Setup] check box to be selected automatically.
- Selecting the [Setup] check box does not select the [Quick], [Camera], [Server], [Network], [User mng.], and [Maintenance] check boxes.

# Maintenance

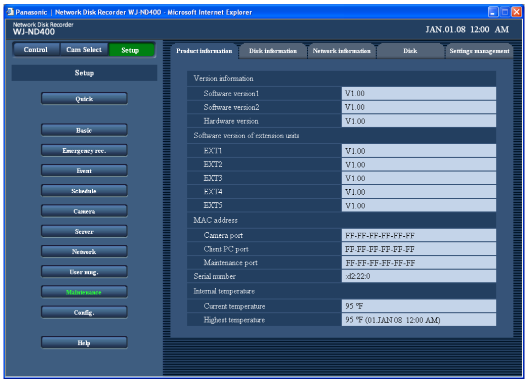
Check the recorder and network status, and configure HDDs.

## Recorder information

Use the following procedure to view software and hardware versions, MAC address, serial number, internal temperature, and Extension unit software version information.

1. **Click the [Maintenance] button on the setup menu.**

2. **On the sub-menu that appears, click [Product information].**
   This will display the "Product information" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Product information
Disk information
Network information
Disk
Settings management

| | |
|---|---|
| Version information | |
| Software version1 | V1.00 |
| Software version2 | V1.00 |
| Hardware version | V1.00 |
| Software version of extension units | |
| EXT1 | V1.00 |
| EXT2 | V1.00 |
| EXT3 | V1.00 |
| EXT4 | V1.00 |
| EXT5 | V1.00 |
| MAC address | |
| Camera port | FF-FF-FF-FF-FF-FF |
| Client PC port | FF-FF-FF-FF-FF-FF |
| Maintenance port | FF-FF-FF-FF-FF-FF |
| Serial number | :d2:22:0 |
| Internal temperature | |
| Current temperature | 95 °F |
| Highest temperature | 95 °F (01.JAN 08 12:00 AM) |

3. **Check the items you want.**
   Refer to “Recorder information” table for details about the settings.

### Recorder information

| Item | Description |
|---|---|
| Version information | |
| Software version 1 | Shows the Software 1 version. |
| Software version 2 | Shows the Software 2 version. |
| Hardware version | Shows the hardware version. |
| Software version of extension units | |
| Ext. 1 to 5 | Shows the software versions of Extension units 1 to 5. |
| MAC address | |
| Camera port | Shows the MAC address of the Camera port. |
| Client PC port | Shows the MAC address of the Client PC port. |
| Maintenance port | Shows the MAC address of the Maintenance port. |
| Serial number | Shows the serial number of the recorder. |
| Internal temperature | |
| Current temperature | Shows the recorder's internal temperature. |
| Highest temperature | Shows the highest internal temperature recorded up to now since power was turned on and the time it was recorded. |

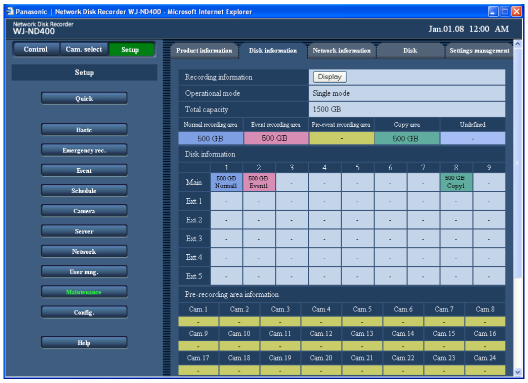
# Disk information

Use the following procedure to view the capacities of the HDDs and Extension units (Ext.1 to 5), the capacity of each recording area, and other disk partition information. You also can view the remaining HDD capacity, the time and date ranges of images recorded on the HDD, and the HDD operating time (hour meter).

**1** **Click the [Maintenance] button on the setup menu.**

**2** **On the sub-menu that appears, click [Disk information].**

This will display the "Disk information" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Product information
Disk information
Network information
Disk
Settings management
Display

| | |
|---|---|
| Recording information | Display |
| Operational mode | Single mode |
| Total capacity | 1500 GB |

| Normal recording area | Event recording area | Pre-event recording area | Copy area | Undefined |
|---|---|---|---|---|
| 500 GB | 500 GB | - | 500 GB | - |

Disk information

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| Main | 500 GB<br>Normal1 | 500 GB<br>Event1 | - | - | - | - | - | 500 GB<br>Copy1 | - |
| Ext. 1 | - | - | - | - | - | - | - | - | - |
| Ext. 2 | - | - | - | - | - | - | - | - | - |
| Ext. 3 | - | - | - | - | - | - | - | - | - |
| Ext. 4 | - | - | - | - | - | - | - | - | - |
| Ext. 5 | - | - | - | - | - | - | - | - | - |

Pre-recording area information

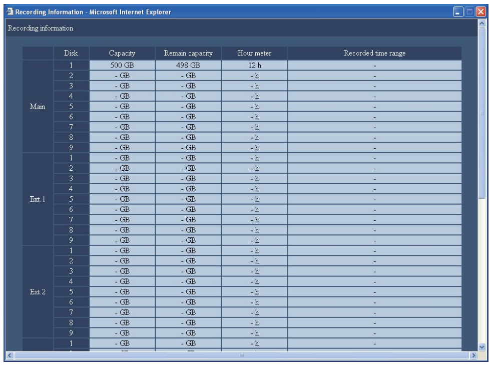
| Cam. 1 | Cam. 2 | Cam. 3 | Cam. 4 | Cam. 5 | Cam. 6 | Cam. 7 | Cam. 8 |
|---|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - | - |
| Cam. 9 | Cam. 10 | Cam. 11 | Cam. 12 | Cam. 13 | Cam. 14 | Cam. 15 | Cam. 16 |
| - | - | - | - | - | - | - | - |
| Cam. 17 | Cam. 18 | Cam. 19 | Cam. 20 | Cam. 21 | Cam. 22 | Cam. 23 | Cam. 24 |
| - | - | - | - | - | - | - | - |

**3** **Check the items you want.**

Refer to “Disk information” table for details about the settings.

**4** **Click the recording information [Display] button.**

The "Recording information" window shows the time and date ranges of the images recorded on each HDD.


Recording Information - Microsoft Internet Explorer

Recording information

| | Disk | Capacity | Remain capacity | Hour meter | Recorded time range |
|---|---|---|---|---|---|
| Main | 1 | 500 GB | 498 GB | 12 h | - |
| | 2 | - GB | - GB | - h | - |
| | 3 | - GB | - GB | - h | - |
| | 4 | - GB | - GB | - h | - |
| | 5 | - GB | - GB | - h | - |
| | 6 | - GB | - GB | - h | - |
| | 7 | - GB | - GB | - h | - |
| | 8 | - GB | - GB | - h | - |
| | 9 | - GB | - GB | - h | - |
| Ext. 1 | 1 | - GB | - GB | - h | - |
| | 2 | - GB | - GB | - h | - |
| | 3 | - GB | - GB | - h | - |
| | 4 | - GB | - GB | - h | - |
| | 5 | - GB | - GB | - h | - |
| | 6 | - GB | - GB | - h | - |
| | 7 | - GB | - GB | - h | - |
| | 8 | - GB | - GB | - h | - |
| | 9 | - GB | - GB | - h | - |
| Ext. 2 | 1 | - GB | - GB | - h | - |
| | 2 | - GB | - GB | - h | - |
| | 3 | - GB | - GB | - h | - |
| | 4 | - GB | - GB | - h | - |
| | 5 | - GB | - GB | - h | - |
| | 6 | - GB | - GB | - h | - |
| | 7 | - GB | - GB | - h | - |
| | 8 | - GB | - GB | - h | - |
| | 9 | - GB | - GB | - h | - |
| | 1 | - GB | - GB | - h | - |

**5** **Check the items you want.**

Refer to “Recording information” table for details about the settings.

## Disk information

| Item | Description |
|---|---|
| Recording Information | Clicking the [Display] button displays the capacity, hour meters, and recorded image time and date ranges for each HDD.<br>• Shows HDD1 information when RAID5/RAID6 is operating. |
| Operational mode | Shows the recorder operation mode.<br>HDD Operational mode: Single mode/RAID5 mode/RAID6 mode |
| Total capacity | Shows the sum of the capacities of all the HDDs. |
| Normal recording area | Shows the storage area capacity of images recorded by manual recording and schedule recording. |
| Event recording area | Shows the storage area capacity of images recorded by emergency recording and post-event recording. |
| Pre-event recording area | Shows the storage area capacity of images recorded by pre-event recording. |
| Copy area | Shows the capacity of the storage area for copying. |
| Undefined | Shows the HDD capacity that is not allocated to image areas. |
| Disk information | Shows the HDD capacities and formatted areas of the main and extension units.<br>• When RAID5/RAID6 is operating the HDD1 capacity is displayed.<br>• Formatted areas are shown as follows.<br>Normal* : HDD formatted for normal recording area<br>Event* : HDD formatted for event recording area<br>Pre-event : HDD formatted for pre-event recording area<br>Copy* : HDD formatted for copy area<br>Remove : Faulty HDD, removed from operations<br>Error : Error has occurred on this HDD during formatting<br>N-Used : HDD formatted on different ND400 for normal recording area (recording not possible, playback only possible)<br>E-Used : HDD formatted on different ND400 for event recording area (recording not possible, playback only possible)<br>P-Used : HDD formatted on different ND400 for pre-event recording area (recording not possible, playback only possible)<br>C-Used : HDD formatted on different ND400 for copy area (recording not possible, playback only possible)<br>* Indicates order of recording.<br>The (R) by the HDD capacity indicates the HDD that is recording. |
| Pre-recording area information | Shows the pre-recording area capacity allocated to each camera. |

## Recording information

| Item | Description |
|---|---|
| Capacity | Shows the capacity of the HDD. |
| Remain capacity | Shows the remaining capacity of the HDD.<br>• The displayed available space on the HDD does not include the space necessary for data management. Thus, the available HDD space appears small.<br>• The capacity remaining for the pre-event recording area is not shown. |
| Hour meter | Shows the operating time of the HDD. |
| Recorded time range | Shows the time and date range of recorded images.<br>• The date range of images recorded in the pre-event recording area is not shown. |

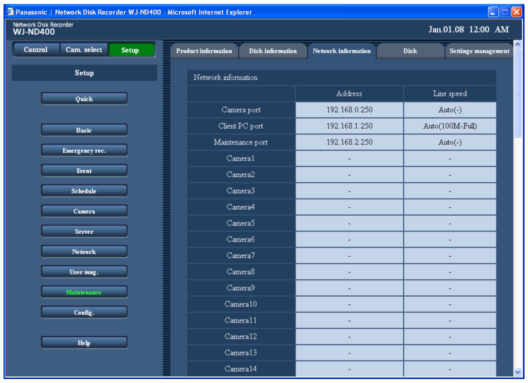
# Network information

Use the following procedure to view each recorder's IP address, and the line speed, number of users logged in, and other network information.

**1** **Click the [Maintenance] button on the setup menu.**

**2** **On the sub-menu that appears, click [Network information].**

This will display the "Network information" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Product information
Disk information
Network information
Disk
Settings management
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help

Network information

| | Address | Line speed |
|---|---|---|
| Camera port | 192.168.0.250 | Auto(-) |
| Client PC port | 192.168.1.250 | Auto(100M-Full) |
| Maintenance port | 192.168.2.250 | Auto(-) |
| Camera1 | - | - |
| Camera2 | - | - |
| Camera3 | - | - |
| Camera4 | - | - |
| Camera5 | - | - |
| Camera6 | - | - |
| Camera7 | - | - |
| Camera8 | - | - |
| Camera9 | - | - |
| Camera10 | - | - |
| Camera11 | - | - |
| Camera12 | - | - |
| Camera13 | - | - |
| Camera14 | - | - |

**3** **Check the items you want.**

Refer to “Network information” table for details about the settings.

### Network information

| Item | Description |
|---|---|
| Network Information | |
| Address | Shows the IP addresses of each recorder port and connected device<br>• In the case of a camera connected via a proxy server, the IP address of the proxy server is displayed as the camera address. |
| Line speed | Shows the line speed. |
| Login user | |
| User | Shows the number of users logged into the recorder. |
| Number of FTP users | Shows the number of users logged into the recorder by FTP. |

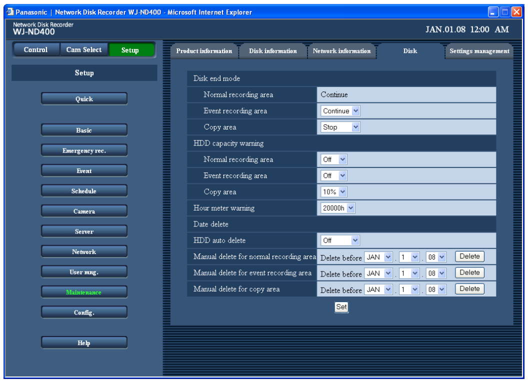
# Disk

Use the following procedure to configure settings for operation when the HDD in the recorder becomes full. It also can be used to configure the warning operation when the HDD becomes full.

**1** **Click the [Maintenance] button on the setup menu.**

**2** **On the sub-menu that appears, click [Disk].**

This will display the "Disk setting" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Product information
Disk information
Network information
Disk
Settings management
Delete
Set

Disk end mode
Normal recording area: Continue
Event recording area: Continue
Copy area: Stop
HDD capacity warning
Normal recording area: Off
Event recording area: Off
Copy area: 10%
Hour meter warning: 20000h
Date delete
HDD auto delete: Off
Manual delete for normal recording area: Delete before JAN . 1 . 08
Manual delete for event recording area: Delete before JAN . 1 . 08
Manual delete for copy area: Delete before JAN . 1 . 08

**3** **Configure the settings for each item.**

Refer to “Disk settings” table for details about the settings.

**4** **Click the [Set] button.**

## Disk settings

| Item | Settings | Description |
|---|---|---|
| Disk end mode | | |
| Normal recording area | Continue♦ | When the normal recording area becomes full, the oldest data is sequentially overwritten with new data. |
| Event recording area | Continue♦ / Stop | Specifies operations when the event recording area becomes full.<br>• When the event recording area becomes full while [Continue] is selected, the oldest data is sequentially overwritten with new data.<br>• When the event recording area becomes full while [Stop] is selected, recording stops. |
| Copy area | Continue / Stop♦ | Specifies operations when the copy area becomes full.<br>• When the copy area becomes full while [Continue] is selected, the oldest data is sequentially overwritten with new data.<br>• When the copy area becomes full while [Stop] is selected, copying stops. |
| HDD capacity warning | | |
| Normal recording area | Off♦ / 1% to 10% | Configures settings for warnings issued when the remaining normal recording area reaches a specified value. |
| Event recording area | Off♦ / 1% to 10% | Configures settings for warnings issued when the remaining event recording area becomes a specified value. |
| Copy area | Off / 1% to 10%♦ | Configures settings for warnings issued when the remaining copy area becomes a specified value. |
| Hour meter warning | 10000h / 20000h♦ / 30000h | Configures settings for warnings issued when the remaining HDD operating time (hour meter) becomes a specified value. |

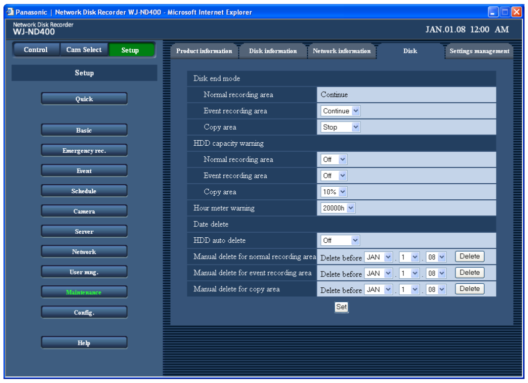
♦Initial default

## Deleting image data from a disk

Use the following procedure to delete image data from the HDD of the recorder.
There are two methods available for deletion: auto delete and manual delete.

1 **Click the [Maintenance] button on the setup menu.**

2 **On the sub-menu that appears, click [Disk].**
This will display the "Disk setting" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
Product information
Disk information
Network information
Disk
Settings management
Delete
Delete
Delete
Set

Disk end mode
Normal recording area: Continue
Event recording area: Continue
Copy area: Stop
HDD capacity warning
Normal recording area: Off
Event recording area: Off
Copy area: 10%
Hour meter warning: 20000h
Date delete
HDD auto delete: Off
Manual delete for normal recording area: Delete before JAN . 1 . 08
Manual delete for event recording area: Delete before JAN . 1 . 08
Manual delete for copy area: Delete before JAN . 1 . 08

3 **Configure the settings for each item.**
Refer to “Data delete” table for details about the settings.

4 **Click the [Set] button.**

### Data delete

| Item | Settings | Description |
|---|---|---|
| HDD auto delete | Off♦ / 1day / 2days / 3days / 4days / 5days / 6days / 7days / 8days / 9days / 10days / 14days / 30days / 1month / 45days / 60days / 90days / 120days / 150days / 180days | Specifies automatic image data deletion after the specified period passes.<br>• The execution time of the auto delete operation is 00:05:00. |
| Manual delete for normal recording area | 08 to 34 (Year) / Jan to Dec (Month) / 1 to 31 (Day) | Deletes image data in the normal recording area until the day before the specified date. After specifying the date, click the [Delete] button. |
| Manual delete for event recording area | 08 to 34 (Year) / Jan to Dec (Month) / 1 to 31 (Day) | Deletes image data in the event recording area until the day before the specified date. After specifying the date, click the [Delete] button. |
| Manual delete for copy area | 08 to 34 (Year) / Jan to Dec (Month) / 1 to 31 (Day) | Deletes image data in the copy area until the day before the specified date. After specifying the date, click the [Delete] button. |

♦Initial default

**Note:**
- HDD auto delete does not delete image or video data in the Copy or Pre-event recording areas.

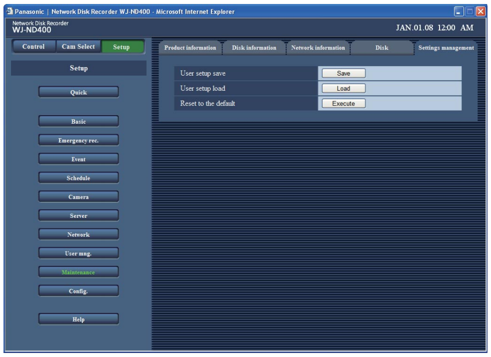
# Settings management

Use the following procedure to save setup menu settings to the recorder and to load previously saved settings. This procedure also can be used to return setup menu settings to their initial defaults.

**1** **Click the [Maintenance] button on the setup menu.**

**2** **On the sub-menu that appears, click [Settings management].**

This will display the "Settings management" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
JAN.01.08 12:00 AM
Control
Cam Select
Setup
Product information
Disk information
Network information
Disk
Settings management
Setup
Quick
Basic
Emergency rec.
Event
Schedule
Camera
Server
Network
User mng.
Maintenance
Config.
Help
User setup save
Save
User setup load
Load
Reset to the default
Execute

**3** **Click the button of the respective item to suit your particular requirements.**

- Each selected item is executed.

Refer to “Settings management” table for details about each item.

### Settings management

| Item | Description |
|---|---|
| User setup save | Saves user setup data to the recorder. |
| User setup load | Loads user setup data saved on the recorder. |
| Reset to the default | Initializes settings. |

**Important:**

- Even if you perform [User setup load]/[Reset to the default], the following settings cannot be loaded or initialized.
  - · [NW link down detection]
  - · [Bandwidth control]
  - · [HTTP port number]
  - · [FTP port number]
  - · [Network settings]
  - · [DNS Settings]
- Even if you perform [User setup load]/[Reset to the default], the [Config.] - [Encryption] settings cannot be loaded or initialized.
- Performing [User setup load] sets host authentication to [Off].

# Configuring disks

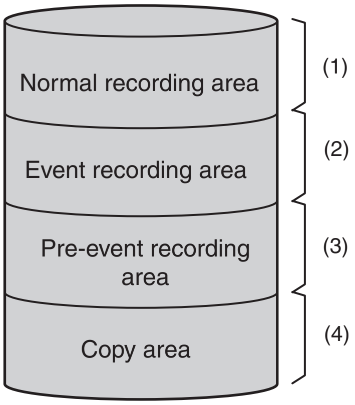
Display disk configuration to do operations to the HDD.

With disk configuration, it is possible to check the total HDD capacity and the capacity of each recording area, and to format HDDs.

## HDD space management

The HDDs in the recorder are virtually divided in the 4 image areas shown below.

You can set only one area for each HDD.



You can check the remaining capacity for each area on the Setup menu.

### (1) Normal recording area

Area for recording except events.

Manual recording/schedule recording/SD memory data

### (2) Event recording area

Area for recording when events occur.

Post-event recording/emergency recording

### (3) Pre-event recording area

Area for pre-event recording.

### (4) Copy area

Area where copied data is saved.

**Note:**

- The HDD provided in the recorder at the factory is initialized as normal recording area. Unformatted HDDs inserted into the recorder are automatically initialized as normal recording area. However, if you remove an HDD operating in an area other than normal video and audio recording (see the basic manual), any unformatted HDD inserted into that spot is formatted the same as the previous HDD.
- Recording/playback is not possible if only the Pre-event recording area and the Copy area are created. Create either one normal recording area or event recording area.
- If a normal recording area is not created, manual and schedule recordings are recorded to the event recording area. Also, if an event recording area is not created, event and emergency recordings are recorded to the normal recording area.

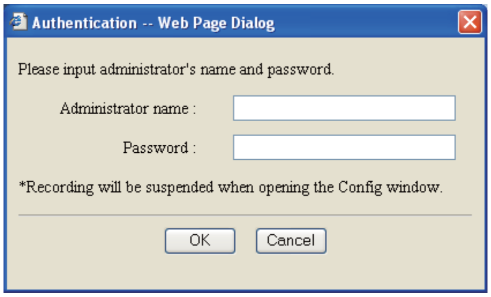
## Disk partition information

**Important:**

- When the "Config" page is displayed, all operations (recording, playback, etc.) except disc configuration stop.
- Displaying the config window forcibly logs out any other users currently logged in to the main unit. Also installing or removing HDD or HDD units from the front panel forcibly logs out any other users logged in to the main unit.
- To exit the disk config window, click the [Main] button. Clicking the [x] button in the upper right corner of the window may cause operation troubles.

**1** **Click the [Config.] button on the setup menu.**

This will display the administrator authentication window.


Authentication -- Web Page Dialog
OK
Cancel

Please input administrator's name and password.

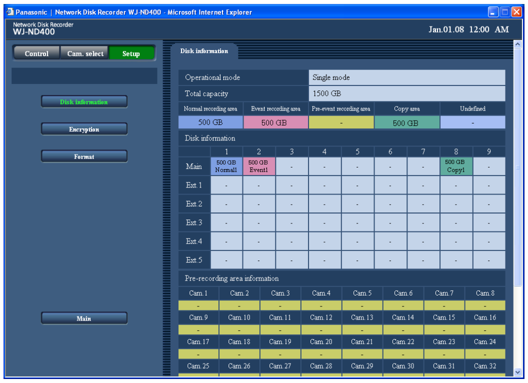
Administrator name :

Password :

*Recording will be suspended when opening the Config window.

**2** **Enter the "Administrator name" and "Password", and then click the [OK] button.**

This will display the configuration settings top window (Disk Information window).


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Disk information
Encryption
Format
Main
Disk information

| | |
|---|---|
| Operational mode | Single mode |
| Total capacity | 1500 GB |

| Normal recording area | Event recording area | Pre-event recording area | Copy area | Undefined |
|---|---|---|---|---|
| 500 GB | 500 GB | - | 500 GB | - |

Disk information

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| Main | 500 GB<br>Normal1 | 500 GB<br>Event1 | - | - | - | - | - | 500 GB<br>Copy1 | - |
| Ext. 1 | - | - | - | - | - | - | - | - | - |
| Ext. 2 | - | - | - | - | - | - | - | - | - |
| Ext. 3 | - | - | - | - | - | - | - | - | - |
| Ext. 4 | - | - | - | - | - | - | - | - | - |
| Ext. 5 | - | - | - | - | - | - | - | - | - |

Pre-recording area information

| Cam. 1 | Cam. 2 | Cam. 3 | Cam. 4 | Cam. 5 | Cam. 6 | Cam. 7 | Cam. 8 |
|---|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - | - |
| Cam. 9 | Cam. 10 | Cam. 11 | Cam. 12 | Cam. 13 | Cam. 14 | Cam. 15 | Cam. 16 |
| - | - | - | - | - | - | - | - |
| Cam. 17 | Cam. 18 | Cam. 19 | Cam. 20 | Cam. 21 | Cam. 22 | Cam. 23 | Cam. 24 |
| - | - | - | - | - | - | - | - |
| Cam. 25 | Cam. 26 | Cam. 27 | Cam. 28 | Cam. 29 | Cam. 30 | Cam. 31 | Cam. 32 |

**3** **Check the items you want.**

Refer to “Disk information” table for details about the window items.

### Disk information

| Item | Description |
|---|---|
| Operational mode | Shows the recorder operation mode.<br>HDD Operational mode: Single mode/RAID5 mode/RAID6 mode |
| Total capacity | Shows the sum of the capacities of all the HDDs. |
| Normal recording area | Shows the storage area capacity of images recorded by manual recording and schedule recording. |
| Event recording area | Shows the storage area capacity of images recorded by emergency recording and post-event recording. |
| Pre-event recording area | Shows the storage area capacity of images recorded by pre-event recording. |
| Copy area | Shows the capacity of the storage area for copying. |
| Undefined | Shows the HDD capacity that is not allocated to image areas. |
| Disk information | Shows the HDD capacities and formatted areas of the main and extension units.<br>• When RAID5/RAID6 is operating the HDD1 capacity is displayed.<br>• Formatted areas are shown as follows.<br>Normal* : HDD formatted for normal recording area<br>Event* : HDD formatted for event recording area<br>Pre-event : HDD formatted for pre-event recording area<br>Copy* : HDD formatted for copy area<br>Remove : Faulty HDD, removed from operations<br>Error : Error has occurred on this HDD during formatting<br>N-Used : HDD formatted on different ND400 for normal recording area (recording not possible, playback only possible)<br>E-Used : HDD formatted on different ND400 for event recording area (recording not possible, playback only possible)<br>P-Used : HDD formatted on different ND400 for pre-event recording area (recording not possible, playback only possible)<br>C-Used : HDD formatted on different ND400 for copy area (recording not possible, playback only possible)<br>* Indicates order of recording.<br>The (R) by the HDD capacity indicates the HDD that is recording. |
| Pre-recording area information | Shows the pre-recording area capacity allocated to each camera. |

## Encryption settings

The image and audio data recorded on the HDDs is encrypted.

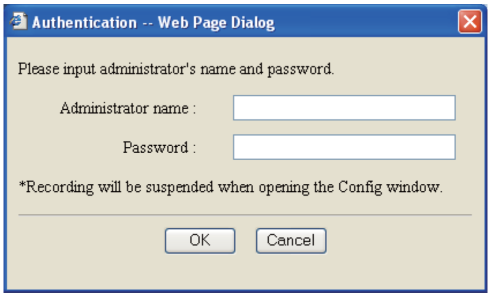
The image and audio data on the HDDs cannot be played except on the recorder when encryption is enabled.

**Important:**

- When the "Config" page is displayed, all operations (recording, playback, etc.) except disc configuration stop.
- Displaying the config window forcibly logs out any other users currently logged in to the main unit. Also installing or removing HDD or HDD units from the front panel forcibly logs out any other users logged in to the main unit.
- To exit the disk config window, click the [Main] button. Clicking the [x] button in the upper right corner of the window may cause operation troubles.

**1** **Click the [Config.] button on the setup menu.**

This will display the administrator authentication window.



Authentication -- Web Page Dialog

Please input administrator's name and password.

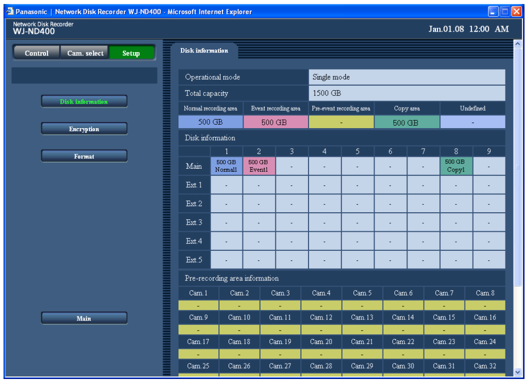
Administrator name :

Password :

*Recording will be suspended when opening the Config window.

**2** **Enter the "Administrator name" and "Password", and then click the [OK] button.**

This will display the configuration settings top window (Disk Information window).



Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Disk information
Encryption
Format
Main

Disk information

| Operational mode | Single mode |
|---|---|
| Total capacity | 1500 GB |

| Normal recording area | Event recording area | Pre-event recording area | Copy area | Undefined |
|---|---|---|---|---|
| 500 GB | 500 GB | - | 500 GB | - |

Disk information

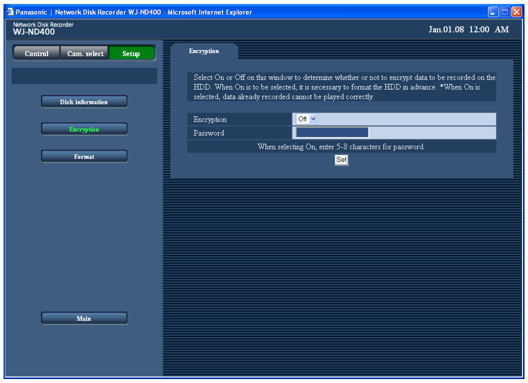
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| Main | 500 GB<br>Normal1 | 500 GB<br>Event1 | - | - | - | - | - | 500 GB<br>Copy1 | - |
| Ext. 1 | - | - | - | - | - | - | - | - | - |
| Ext. 2 | - | - | - | - | - | - | - | - | - |
| Ext. 3 | - | - | - | - | - | - | - | - | - |
| Ext. 4 | - | - | - | - | - | - | - | - | - |
| Ext. 5 | - | - | - | - | - | - | - | - | - |

Pre-recording area information

| Cam. 1 | Cam. 2 | Cam. 3 | Cam. 4 | Cam. 5 | Cam. 6 | Cam. 7 | Cam. 8 |
|---|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - | - |
| Cam. 9 | Cam. 10 | Cam. 11 | Cam. 12 | Cam. 13 | Cam. 14 | Cam. 15 | Cam. 16 |
| - | - | - | - | - | - | - | - |
| Cam. 17 | Cam. 18 | Cam. 19 | Cam. 20 | Cam. 21 | Cam. 22 | Cam. 23 | Cam. 24 |
| - | - | - | - | - | - | - | - |
| Cam. 25 | Cam. 26 | Cam. 27 | Cam. 28 | Cam. 29 | Cam. 30 | Cam. 31 | Cam. 32 |

**3** **On the configuration settings top window (Disk Information window), click [Encryption].**

This will display the "Encryption" screen.



Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Disk information
Encryption
Format
Main
Set

Encryption

Select On or Off on this window to determine whether or not to encrypt data to be recorded on the HDD. When On is to be selected, it is necessary to format the HDD in advance. *When On is selected, data already recorded cannot be played correctly.

| | |
|---|---|
| Encryption | Off |
| Password | |

When selecting On, enter 5-8 characters for password.

**4** **Configure the settings for each item.**

Refer to “Encryption settings” table for details about the settings.

**5** **Click the [Set] button.**

**6** **The disk is formatted.**

Format the disk after setting the recording area (page 86).

**Note:**

- If you enable encryption while recording, data recorded while encryption was disabled cannot be played back. Also, you cannot playback data recorded while encryption was enabled even if you disable encryption.

### Encryption settings

| Item | Settings | Description |
|---|---|---|
| Encryption | Off♦/On | Sets the encryption. |
| Password | Enter password<br>(Blank♦) | Enters the password.<br>• Enter between 5 and 8 single-byte alpha-numeric characters and symbols, excluding ampersand (&) and spaces.[*1] |

♦Initial default

*1 You can enter the following single-byte alpha-numeric characters and symbols.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z
0 1 2 3 4 5 6 7 8 9 ! # $ % ` ( ) * + , - . / : ; < = > ? @ [ \ ] ^ _ { | } ~

# Formatting disks

When necessary, format HDDs when using them for the first time after replacing or adding HDDs, or when connecting an extension unit. HDDs can be formatted as a group or individually (select units when running RAID5 or RAID6).

You must also divide the HDD into the normal recording area, event recording area, copy area and the play recording area.

When an HDD is formatted, all the data on it is destroyed.

## Format

Use the following procedure to allocate an event recording area and copy area to an HDD, and to re-format an HDD.

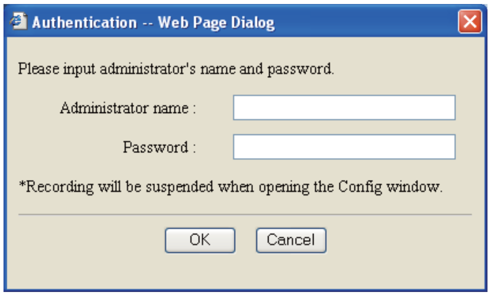
- Unformatted HDDs in the recorder and internal HDDs when shipped are automatically formatted as Normal recording areas when recognized.
- Formatting one HDD takes about 30 seconds.

**Important:**

- When the "Config" page is displayed, all operations (recording, playback, etc.) except disc configuration stop.
- Displaying the config window forcibly logs out any other users currently logged in to the main unit. Also installing or removing HDD or HDD units from the front panel forcibly logs out any other users logged in to the main unit.
- To exit the disk config window, click the [Main] button. Clicking the [x] button in the upper right corner of the window may cause operation troubles.

**1** **Click the [Config.] button on the setup menu.**

This will display the administrator authentication window.



Authentication -- Web Page Dialog

Please input administrator's name and password.

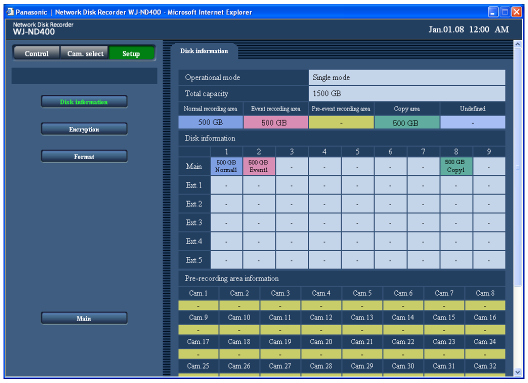
Administrator name :

Password :

*Recording will be suspended when opening the Config window.

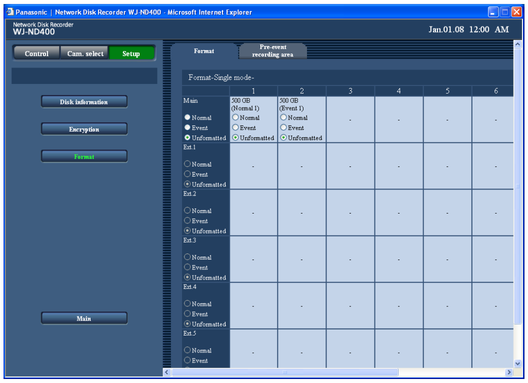
**2** **Enter the "Administrator name" and "Password", and then click the [OK] button.**

This will display the configuration settings top window (Disk Information window).



**3** **On the configuration settings top window (Disk Information window), click [Format].**

This will display the "Format" window.



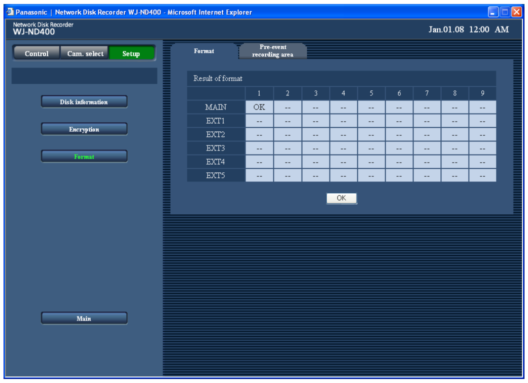
**4** **Select the HDD to be formatted and select the check boxes of the recording areas to be allocated.**

Selection of multiple HDDs is supported.

- Normal : Formatted as normal recording area
- Event : Formatted as event recording area
- Copy : Formatted as copy area
- Unformatted : Do not format

**5** **Click the [Format] button.**

A "Format result" window will appear after formatting is complete.



**6** **Click the [OK] button.**
This will return to the "Format" window.

**7** **Click the [Main] button.**
This will return to the “Cam. select” window.

**Note:**

- Multiple recording areas cannot be allocated to a single HDD.
- The copy area can be allocated to an HDD plugged into the main unit's HDD8 or HDD9 positions only during single operation. A copy area cannot be allocated to HDD 1 to 7 or to an extension unit HDD.
  Copy areas cannot be set during RAID5/RAID6.

## Pre-event recording area formatting

Use the following procedure to format a pre-event recording area. Pre-event recording area space can be allocated for each camera channel.

- Formatting the pre-event recording area may take around 10 minutes depending on the number of cameras.

**Important:**

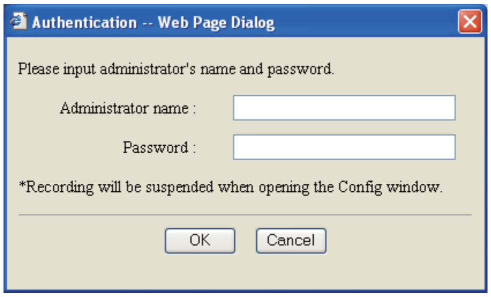
- When the "Config" page is displayed, all operations (recording, playback, etc.) except disc configuration stop.
- Displaying the config window forcibly logs out any other users currently logged in to the main unit. Also installing or removing HDD or HDD units from the front panel forcibly logs out any other users logged in to the main unit.
- To exit the disk config window, click the [Main] button. Clicking the [x] button in the upper right corner of the window may cause operation troubles.
- Before formatting the pre-event recording area, set the camera channels for pre-event recording area as follows.
  - · Set the Model/Compression, address, user name, and password on [NW camera].
  - · Set the pre-event recording rate and pre-event recording time on [Program]

  After finishing the settings, connect a camera and make sure an image is displayed.

  You may not be able to record data at the time you want if you connect a camera that is not set and format the pre-event recording while an image is not displayed.
- Pre-event recording formatting cannot be done during RAID5/RAID6 operation with just the recorder.
  You need to connect an extension unit to set up pre-event recording in a RAID configuration.

**1** **Click the [Config.] button on the setup menu.**

This will display the administrator authentication window.


Authentication -- Web Page Dialog
OK
Cancel

Please input administrator's name and password.

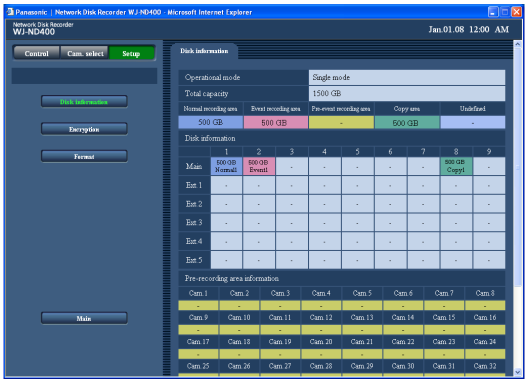
Administrator name :

Password :

*Recording will be suspended when opening the Config window.

**2** **Enter the "Administrator name" and "Password", and then click the [OK] button.**

This will display the disk information window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Disk information
Encryption
Format
Main
Disk information

| | |
|---|---|
| Operational mode | Single mode |
| Total capacity | 1500 GB |

| Normal recording area | Event recording area | Pre-event recording area | Copy area | Undefined |
|---|---|---|---|---|
| 500 GB | 500 GB | - | 500 GB | - |

Disk information

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| Main | 500 GB<br>Normal1 | 500 GB<br>Event1 | - | - | - | - | - | 500 GB<br>Copy1 | - |
| Ext. 1 | - | - | - | - | - | - | - | - | - |
| Ext. 2 | - | - | - | - | - | - | - | - | - |
| Ext. 3 | - | - | - | - | - | - | - | - | - |
| Ext. 4 | - | - | - | - | - | - | - | - | - |
| Ext. 5 | - | - | - | - | - | - | - | - | - |

Pre-recording area information

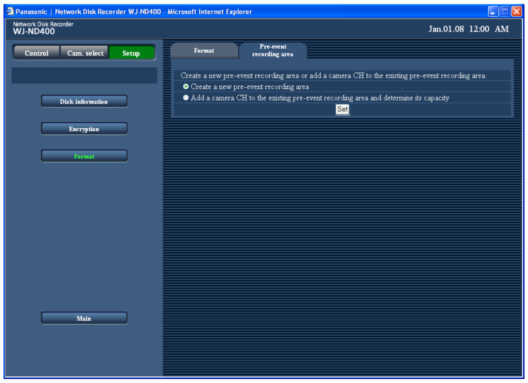
| Cam. 1 | Cam. 2 | Cam. 3 | Cam. 4 | Cam. 5 | Cam. 6 | Cam. 7 | Cam. 8 |
|---|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - | - |
| Cam. 9 | Cam. 10 | Cam. 11 | Cam. 12 | Cam. 13 | Cam. 14 | Cam. 15 | Cam. 16 |
| - | - | - | - | - | - | - | - |
| Cam. 17 | Cam. 18 | Cam. 19 | Cam. 20 | Cam. 21 | Cam. 22 | Cam. 23 | Cam. 24 |
| - | - | - | - | - | - | - | - |
| Cam. 25 | Cam. 26 | Cam. 27 | Cam. 28 | Cam. 29 | Cam. 30 | Cam. 31 | Cam. 32 |

**3** **On the disk config top window, click [Format].**

This will display the "Format" window.

**4** **On the sub-menu that appears, click [Pre-event recording area].**

This will display the "Pre-event recording area setting" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Format
Pre-event recording area
Disk information
Encryption
Format
Set
Main

Create a new pre-event recording area or add a camera CH to the existing pre-event recording area.

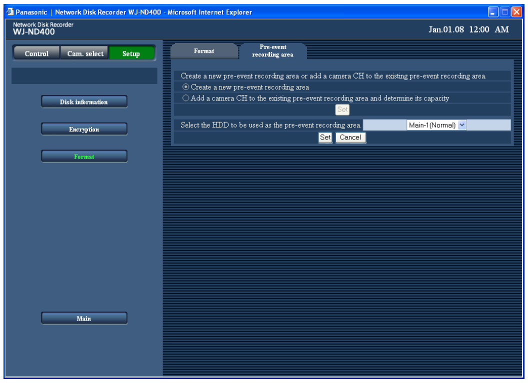
● Create a new pre-event recording area

○ Add a camera CH to the existing pre-event recording area and determine its capacity

**5** **Select the [Pre-event recording area setting] window and click the [Set] button.**

- Create a new pre-event recording area
- Add a camera to pre-event recording areas that are created and assign areas

This will display the "Pre-event recording area HDD setting" window.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Format
Pre-event recording area
Disk information
Encryption
Format
Set
Set
Cancel
Main

Create a new pre-event recording area or add a camera CH to the existing pre-event recording area.

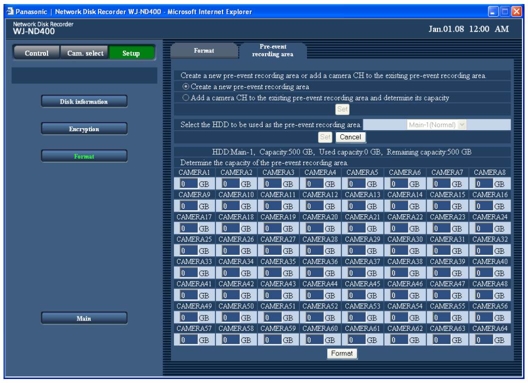
● Create a new pre-event recording area

○ Add a camera CH to the existing pre-event recording area and determine its capacity

Select the HDD to be used as the pre-event recording area. Main-1(Normal)

**6** **Select the HDD you want to format as the HDD to set with a pre-event recording area, and then click the [Set] button.**

This will display a window for allocating pre-event recording area.


Panasonic | Network Disk Recorder WJ-ND400 - Microsoft Internet Explorer
Network Disk Recorder
WJ-ND400
Jan.01.08 12:00 AM
Control
Cam. select
Setup
Disk information
Encryption
Format
Main
Format
Pre-event recording area
Set
Set
Cancel
Format

Create a new pre-event recording area or add a camera CH to the existing pre-event recording area.

● Create a new pre-event recording area

○ Add a camera CH to the existing pre-event recording area and determine its capacity

Select the HDD to be used as the pre-event recording area. Main-1(Normal)

HDD:Main-1, Capacity:500 GB, Used capacity:0 GB, Remaining capacity:500 GB

Determine the capacity of the pre-event recording area.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CAMERA1 | CAMERA2 | CAMERA3 | CAMERA4 | CAMERA5 | CAMERA6 | CAMERA7 | CAMERA8 |
| 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB |
| CAMERA9 | CAMERA10 | CAMERA11 | CAMERA12 | CAMERA13 | CAMERA14 | CAMERA15 | CAMERA16 |
| 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB |
| CAMERA17 | CAMERA18 | CAMERA19 | CAMERA20 | CAMERA21 | CAMERA22 | CAMERA23 | CAMERA24 |
| 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB |
| CAMERA25 | CAMERA26 | CAMERA27 | CAMERA28 | CAMERA29 | CAMERA30 | CAMERA31 | CAMERA32 |
| 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB |
| CAMERA33 | CAMERA34 | CAMERA35 | CAMERA36 | CAMERA37 | CAMERA38 | CAMERA39 | CAMERA40 |
| 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB |
| CAMERA41 | CAMERA42 | CAMERA43 | CAMERA44 | CAMERA45 | CAMERA46 | CAMERA47 | CAMERA48 |
| 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB |
| CAMERA49 | CAMERA50 | CAMERA51 | CAMERA52 | CAMERA53 | CAMERA54 | CAMERA55 | CAMERA56 |
| 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB |
| CAMERA57 | CAMERA58 | CAMERA59 | CAMERA60 | CAMERA61 | CAMERA62 | CAMERA63 | CAMERA64 |
| 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB | 0 GB |

**7** **Select the camera channel and enter the amount of space to be allocated.**

- Pre-event recording areas can be created for up to 64 channels on a single HDD.
- A camera channel that is already specified for a pre-event recording area on another HDD cannot be selected. (If an HDD formatted for pre-event recording area from another ND400 is recognized, channels pre-set on the HDD cannot be selected.)
- Set at least 5 GB of space for the pre-event recording area of each camera channel. Enter 0 to not set the capacity.

**8** **Click the [Format] button.**

# About mail notification

## Alarm mail notification

The main unit's address appears in the alarm mail as shown below.

Contents of the alarm mail

ND400 (192.168.0.250), alarm was occurred.
Alarm date: xx-xxx-xxxx xx:xx:xx GMT xx:xx (Example: 01-JAN-2008 GMT+0:00)
Cause of alarm: Displays an event type and a camera channel or an alarm number (Example: COMMAND ALARM 5CH)
File name of alarm image: The file name of the image attached to an e-mail.
URL:http://192.168.0.250/

## Warning mail notification

The following mail will be sent to notify of a trouble occurrence to a registered address when the trouble occurs.

ND400 (192.168.0.250) STATUS REPORT.

DATE: 1-JAN-2008 12:00:00 GMT+0:00

STATUS: The description of the trouble will be displayed. (Ex. MAIN THERMAL ERROR)

| Item | Description | |
|---|---|---|
| DATE | Time and date when the trouble occurred will be displayed. | |
| STATUS | The description of the trouble will be displayed. | |
| | HDD capacity warning[*1] | : <Anything other than FULL><br>NORMAL-HDD CAPACITY REMAINS **%<br>EVENT-HDD CAPACITY REMAINS **%<br>COPY-HDD CAPACITY REMAINS **%<br>** is remaining capacity (%).<br>: <FULL><br>EVENT-HDD FULL<br>COPY-HDD FULL |
| | Power outage detection | : POWER LOSS |
| | Recover from a power outage | : POWER RECOVERED |
| | NW camera error detection | : CAM** COMMUNICATION ERROR<br>** is camera channel. |
| | NW camera error recovery | : CAM** COMMUNICATION RECOVERED<br>** is camera channel. |
| | NW camera error detection (audio) | : CAM** COMMUNICATION ERROR (AUDIO)<br>** is camera channel. |
| | NW camera error recovery (audio) | : CAM** COMMUNICATION RECOVERED (AUDIO)<br>** is camera channel. |
| | HDD smart warning[*2] | : Recorder: MAIN-y SMART WARNING<br>Extension unit: EXTx-y SMART WARNING<br>x is unit number, y is disk number. |
| | HDD hour meter warning | : Recorder: MAIN-y HOUR METER WARNING<br>Extension unit: EXTx-y HOUR METER WARNING<br>x is unit number, y is disk number. |
| | Remove auto links (per HDD) | : Recorder: MAIN-y LOGICALLY REMOVED<br>Extension unit: EXTx-y LOGICALLY REMOVED<br>x is unit number, y is disk number. |
| | Remove auto links (per unit) | : Recorder: MAIN LOGICALLY REMOVED<br>Extension unit: EXTx LOGICALLY REMOVED<br>x is unit number. |

| Item | Description | | |
|---|---|---|---|
| | RAID5 recovery failure | : | Recorder: MAIN RAID5 RECOVERY FAILURE<br>Extension unit: EXTx RAID5 RECOVERY FAILURE<br>x is unit number. |
| | RAID6 recovery failure | : | Recorder: MAIN RAID6 RECOVERY FAILURE<br>Extension unit: EXTx RAID6 RECOVERY FAILURE<br>x is unit number. |
| | Fan trouble | : | Recorder: MAIN FANy ERROR<br>Extension unit: EXTx FANy ERROR<br>x is unit number, y is FAN number. |
| | Thermal trouble | : | Recorder: MAIN THERMAL ERROR<br>Extension unit: EXTx THERMAL ERROR<br>x is unit number. |
| | NW link error | : | NETWORK LINK ERROR |
| | RAID5 1 DOWN | : | Recorder: MAIN RAID5 1 DOWN<br>Extension unit: EXTx RAID5 1 DOWN<br>x is unit number. |
| | RAID5 2 DOWN | : | Recorder: MAIN RAID5 2 DOWN<br>Extension unit: EXTx RAID5 2 DOWN<br>x is unit number. |
| | RAID6 1 DOWN | : | Recorder: MAIN RAID6 1 DOWN<br>Extension unit: EXTx RAID6 1 DOWN<br>x is unit number. |
| | RAID6 2 DOWN | : | Recorder: MAIN RAID6 2 DOWN<br>Extension unit: EXTx RAID6 2 DOWN<br>x is unit number. |
| | RAID6 3 DOWN | : | Recorder: MAIN RAID6 3 DOWN<br>Extension unit: EXTx RAID6 3 DOWN<br>x is unit number. |
| | Camera SD memory card error | : | CAM xx SD ERR<br>** is camera channel. |
| | Camera SD memory card starting write error | : | CAM xx SD START ERR<br>** is camera channel. |
| | Camera SD memory card ending write error | : | CAM xx SD END ERR<br>** is camera channel. |
| | Camera SD memory card list request error | : | CAM xx GET LIST ERR<br>** is camera channel. |
| | Camera SD memory card data obtainment failure | : | CAM xx GET IMG ERR<br>** is camera channel. |
| | Camera SD memory card data deletion failure | : | CAM xx DEL IMG ERR<br>** is camera channel. |
| | Video loss detection | : | CAM xx VIDEO LOSS<br>** is camera channel. |
| | Video loss recovery | : | CAM xx VIDEO RECOVERED<br>** is camera channel. |
| | Single mode format failure | : | Recorder: MAIN-y SINGLE FORMAT ERROR<br>Extension unit: EXTx-y SINGLE FORMAT ERROR<br>x is unit number, y is disk number. |
| | RAID5 mode format failure | : | Recorder: MAIN RAID5 FORMAT ERROR<br>Extension unit: EXTx RAID5 FORMAT ERROR<br>x is unit number. |

| Item | Description | | |
|---|---|---|---|
| | RAID6 mode format failure | : | Recorder: MAIN RAID6 FORMAT ERROR<br>Extension unit: EXTx RAID6 FORMAT ERROR<br>x is unit number. |
| | HDD remove error | : | Recorder: MAIN-y SWAP WARNING<br>Extension unit: EXTx-y SWAP WARNING<br>x is unit number, y is disk number. |
| | Alteration detected | : | ALTERED **CH<br>** is camera channel. |

*1 HDD capacity warning

A warning mail with the <except FULL> content will be sent when the available disk space becomes less than the set value for "HDD capacity warning" of "Disk" of the "Maintenance" menu. After a warning mail is sent, a warning mail with the <except FULL> content will be sent each time 1% of the available disk space is reduced, and a warning mail with the <FULL> content will be sent when there is no available disk space.

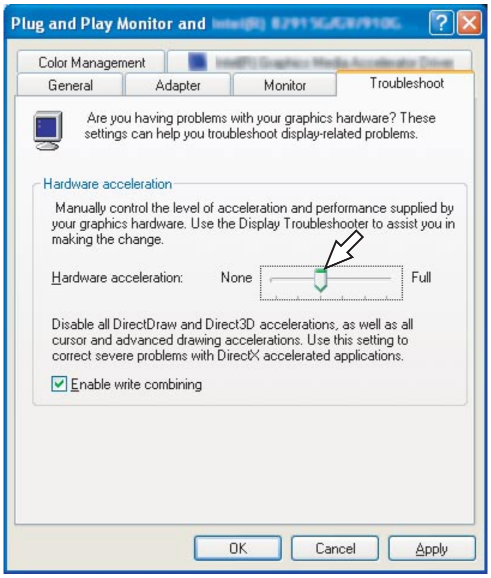
*2 The HDD smart warning mail is not sent in the RAID5 mode or the RAID6 mode.

# Troubleshooting

## Problems

Before requesting service, check the following items. Contact your dealer if the problem does not appear here, if the problem is not resolved by these remedies, or if you have any questions about settings and installation.

| Problem | Check item/remedy | Page |
|---|---|---|
| Cannot access from browser | Check if the 10BASE-T, 100BASE-TX, or 1000BASE-TX cable is connected to the network port. | – |
| | If the network port connection indicator does not light, the LAN is not connected or the network is not operating correctly.<br>Make sure that the connection indicator lights. Contact the system administrator if the indicator does not light. | – |
| | Refer to the system administrator to make sure the IP address is valid. | page 11 |
| | Use the following procedure to check if you are accessing a valid IP address.<br>>ping "recorder IP address"<br>When reply is returned from the recorder, the connection is normal.<br>When reply is not returned, check the IP address and the subnet mask settings. | – |
| | Refer to the system administrator to make sure the IP address is different from another device. | page 11 |
| | Check if the IP address of the recorder matches the submit of the network. | page 11 |
| | When the recorder and the client (PC) are on the same subnet, set the same subnet for the IP address. | |
| | To access the recorder on the same subnet, it is recommended to set the recorder's address to "Don't Use Proxy For These Addresses". | |
| Buttons on browser window are not displayed correctly | The browser's display may have troubles if you change the font settings from the initial settings. Use the initial font settings. | – |
| Some information does not appear on browser window | Press [F5] on the keyboard to refresh the window. | – |
| Image is not being refreshed | The image display may be stopped because of congestion on the network. Press [F5] on the keyboard to acquire the image again. | – |
| | Image data may not be refreshed if recording at low recording rate (less than 1 ips). | – |
| Live and recorded images in MPEG-4 format are not displayed in a normal manner | Display and recording may be unavailable for up to one minute directly after the recorder is turned on while cameras are active or a LAN cable is connected to the camera port. | – |
| SD memory data is not displayed on rec event list | Data on SD memory cannot be played from a normal rec event list or from date search. Filter the rec event list by using [SD memory] of the rec event search and then select rec event list to play images. | – |
| | The recorded time on the SD memory data is the time set for the camera when the image is recorded on the SD memory card. Check the time set for the camera. | – |
| Cannot play SD memory data | If the recording consists of only a few frames, they may not be played back normally. When this happens, click "NEXT IMAGE" / "PREV IMAGE" to display the images. | – |

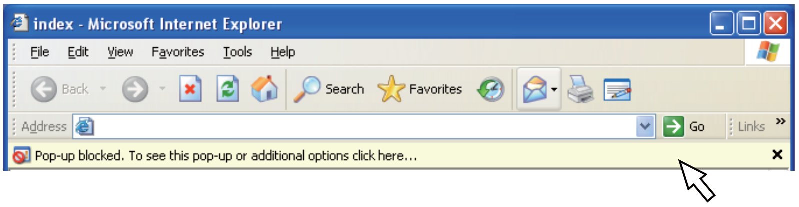
| Problem | Check item/remedy | Page |
|---|---|---|
| Display in one image display area changes to multiple camera images when viewing MPEG-4 images in multiscreen | This may be caused by the combination of the PC's display adapter and driver. When this happens, first, update the driver of the display adapter.<br>• If this does not resolve the problem, use the following procedure to adjust the hardware accelerator function. This explanation uses Windows XP as an example.<br>1. Close all the browsers and then right-click the desktop and select "Properties" from the menu.<br>2. Select [Setting] tab from "Display Properties", and then click the [Advanced] button.<br>3. Click the [Troubleshoot] tab, and disable the DirectDraw acceleration by adjusting the level of [Hardware acceleration].<br><br>Plug and Play Monitor and [illegible]<br> Color Management<br>General<br>Adapter<br>Monitor<br>Troubleshoot<br>Are you having problems with your graphics hardware? These settings can help you troubleshoot display-related problems.<br>Hardware acceleration<br>Manually control the level of acceleration and performance supplied by your graphics hardware. Use the Display Troubleshooter to assist you in making the change.<br>Hardware acceleration: None — Full<br>Disable all DirectDraw and Direct3D accelerations, as well as all cursor and advanced drawing accelerations. Use this setting to correct severe problems with DirectX accelerated applications.<br>☑ Enable write combining<br> | – |
| Cannot close confirmation window when basic operation window opens | Check the user name and password. | page 69 |
| Cannot play back downloaded images | Download is stopped when the settings are changed. When this happens, the downloaded image cannot be played back. | – |
| [Please wait] is always displayed on window | ActiveX control is not installed. Install ActiveX control. | page 96 |
| Audio is not recorded<br>Audio is not be played correctly | Is "Mic input" selected for "Audio mode" on the setup menu of the network camera? | page 34,<br>page 42 |
| | Is "32 kbps" selected for "Audio bit rate" on the setup menu of the network camera?<br>Check the settings of the camera. | page 34,<br>page 42 |
| | Audio may not play when playing the most recent images while recording images or audio.<br>If this happens, stop and then start playing the images again. | – |
| Cannot play audio using the Viewer software | • Are an image data (extension: n3r) and an audio data (extension: n3a) in the same folder?<br>Check the directory designated as the destination folder. | Operating Instructions (PDF file) |

| Problem | Check item/remedy | Page |
|---|---|---|
| Live image is not displayed | Check the settings for [NW camera] on the setup menu. | page 48 |
| | Check the settings for "Live video" on the setup menu. | page 42 |
| | Check the IP address, subnet mask, and default gateway for the recorder and the network camera. | page 61 |
| | When the camera's compression format is set to M-JPEG and when saving from the recorder's setup menu or measuring from the program settings repeatedly, a few minutes of live image are not recorded and instead a black screen appears. If this happens, wait about 10 minutes. | – |
| | The camera image may not be displayed in MPEG-4 format images via the Internet. Refer to your network administrator because it effects the router settings and other network devices. | – |
| Stops playback. Playback restarts after a short time. | Time settings are changed through auto time adjustment. When the time in one record is not continuous, image playback may stop.<br>In this case, playback will restart after a short time. | – |
| Live and recorded images are not displayed | • Image is not displayed because ActiveX control is not installed correctly if logged in to a user's account with limited access privileges. Log in to a user account as an administrator.<br>• ActiveX control cannot be installed sometimes when you log in the network with domain authentication (Active Directory). Register trusted sites and add the security setting.<br>1. Start up Internet Explorer and click on "Tools".<br>2. Click "Internet options".<br>3. Click the "Security" tab, and select "Trusted sites".<br>4. Set "Low" for "This zone's security level" (lowering the security level lowers the security level of the PC being used).<br>5. Click "Site". Do "Add" to URL of the recorder. When you do this, check that the "Must check all servers (https:) of sites in this zone" check box is not selected. | – |
| • Refresh of live images is unstable<br>• Browser disconnection occurs<br>• Network performance is poor<br>• Downloaded image is not displayed correctly<br>• The image is not displayed, recorded, or played back correctly. | If the cameras use different compression formats, the performance may be poor (image update is unstable). | – |
| | The settings may exceed the performance limit of network cable or the recorder's network.<br>Lower the value/rate related to network performance, such as the live transmission rate and the recording rate. | page 42 |
| | The recorder and the HUB network speed may not match (100BASE-TX Full and 100BASE-TX Half, for example). A HUB may cause variations in network transmission speeds.<br>Set the HUB's transmission speed and the recorder's network transmission speed to the same speed. | – |
| Cannot operate camera | Make sure that the number of the camera set in [NW camera] on the setup menu is correct. | page 48 |
| | Make sure that the user name and password in [NW camera] on the setup menu have been input. | page 48 |

## Message display

The following problems may occur depending on the operating environment. If these problems occur, use the appropriate remedy to solve it. The following remedies do not affect other applications or security.

The "Information bar" used in the following problems and remedies indicates the message bar that appears under the address bar in Internet Explorer.



Pop-up blocked. To see this pop-up or additional options click here...

| Problem | Remedy |
|---|---|
| The following message appears in the information bar. "Pop-up blocked. To see this pop-up or additional options, click here..." | Click the information bar and select "Allow popups from this site...". A prompt asking "Allow popups from this site" appears, click the "Yes" button. |
| The following message appears in the information bar. "This site may require the following ActiveX control: Install 'wvasetup.exe' from 'Matsushita Electric Industrial Co., Ltd.' and click here..." | Click the information bar and select "Install ActiveX Control...".<br>A security warning window appears, click the "Install" button. |
| The following message appears in the information bar. "Internet Explorer has blocked the file being downloaded to your computer from this site as a security measure. Click here to display options..." | Click the information bar and select "Download file...".<br>If you cannot download the file even after doing the following operations, do the following.<br>Open Internet Explorer's security settings window, select "Download" - "Automatic prompting for file downloads"-"Enable" and then click the "OK" button. A warning window appears, click the "Yes" button. |
| The following security warning window appears when you try to download a file. "The publisher could not be verified. Are you sure you want to run this software?" | Click the "Run" button. |
| Unnecessary status bar or scroll bar appears in popup | Open Internet Explorer's security settings window, select "Allow unlimited size and position of script when opening windows"-"Enable" and then click the "OK" button. A warning window appears, click the "Yes" button. |

# Glossary

## Words used in the manual

This manual uses the following words.

### ActiveX Control

A software module developed by Microsoft. It is used to add functions, downloaded from a web server via the Internet or an Intranet, to Internet Explorer. The recorder uses it to display video.

### Bit rate

Indicates how many bits of data can be processed or transmitted in a unit of time. Generally, the units are in bps, or bits per second. Used to indicate the compression rate of video and audio data, and how much data a communications line can send and receive in 1 second.

### Broadband Router

Router used to access the Internet via high-speed ADSL or fiber optic lines.

### Cable Modem

Device used for connecting to the Internet via a CATV line. Called a cable modem because it functions similar to a modem on a phone line. It differs from regular modems that use a serial port in that it is connected to a PC via an Ethernet connection.

### Camera operation

Operations of the camera connected to the recorder such as pan and tilt (horizontal and vertical position), zooming, focusing, brightness, preset motions (movement towards a set horizontal and vertical position) and auto functions (automatic camera rotation, etc.).

### DDNS

A technology for dynamically translating DNS server information to enable the transfer of only differences in information between DNS servers (refer to "DNS"). This reduces the data transfer amount necessary for updating information on the DNS server and reduces the load on the network.

### DHCP

A protocol that enables PCs to automatically get information from a server needed for accessing a network.

### DHCP Server

Maintains network-related information (assigns IP address ranges to (default) gateway servers and clients), and distributes that information when clients request it.

### DNS

The long lists of numbers or IP addresses that are used in network environments are difficult to remember, which makes them impractical. This is why PCs are given an easy-to-follow name (domain name) which is converted to an IP address before they are communicated with. The DNS provides translation between domain names and IP addresses.

### Default Gateway

Network device used as a gateway for networks, such as a local network, to access PCs on an external network. Data is sent using the default gateway if a gateway is not specified in the destination IP address.

### Disk Configuration

Configure the HDD after replacing, removing, or adding a HDD. Disk Configuration is the menu for configuring the HDD.

### Electronic Zoom

Enlarges live images and playback images during playback. The electronic zoom enlarges the images by the recorder and is separate from the zoom function included as part of the camera operations for enlarged images.

### Emergency Recording

Gives priority to recording video and audio when an emergency occurs using the external switch connected to the recorder.

### Ethernet

LAN communication developed by Xerox.

### Event

Indicates an occurrence that causes the recorder to take an event action. Events include, terminal alarms, command alarms, and site alarms.

### Event recording

Function that automatically starts video and audio recording when an event occurs. Event recording includes Pre-event recording that records images before the event and Post-event recording that records images after the event.

### External Recording Mode

Use the external switch connected to the recorder to switch to time tables such as the recording settings and event action settings.

### FTP

A protocol that is commonly used for transferring files over the Internet.

### Firewall

A type of security used when accessing outside networks like the Internet.

### Full Duplex

Communications method that allows simultaneous sending and receiving by transmitting in both directions using an independent sending line and receiving line.

### Global Address

IP address assigned to each device connected to the Internet that is equivalent to an address on the Internet. IP address is required for Internet communications.

### HDD

Abbreviation for hard disk drive, a type of mass storage device. Camera images are recorded onto a hard disk drive.

### HTML

HTML is a markup language used for describing the logical structure of a document and its appearance. Links to images, audio, video and other documents can be inserted into the document. A web browser is used to view documents written in HTML.

### Half Duplex

Communications method that switches between sending and receiving using a single communications line.

### IP Masquerading

A technology for sharing a single global address between two or more PCs. Allows simultaneous connection of multiple machines to 1 global address to dynamically convert NAT and different TCP/UDP port numbers.

### IP address

The identification number assigned to PCs connected via IP networks such as the Internet or an Intranet, or to individual communications devices. Do not assign the same address to multiple devices, especially on the Internet.

### Internet

PC network that connects networks all over the world. Different types of PCs can communicate over the Internet.

### LAN

A communications network for connecting PCs, printers and other network devices in a relatively small area such as in a building or floor of a building or campus in which data is transferred.

### M-JPEG

Video format in which the camera sends continuous JPEG images. Compared with sending images from the camera one at a time, this method reduces the load on the network. However, the transfer rate may change depending on the status of the camera. Images may be represented as a JPEG depending on the camera.

### MAC address

Fixed physical address assigned to network devices. Devices send and receive data based on this.

### Manual recording

Click the [Recording] button and the [Recording stop] button to manually start and stop recording of video and audio.

### Multicast

A way to send the same data to multiple users specified on a network.

### Multiscreen Display

This recorder can display multiple camera channels simultaneously while displaying live images or playback images.

### NAT (Network Address Translation)

A technology for sharing a single global address between two or more PCs.

### NTP (Network Time Protocol)

A protocol developed to accurately maintain time among hosts on the Internet.

### POP 3

A protocol for receiving e-mail stored on a server on the Internet or an Intranet.

### POP 3 Server

A server that supports POP3, currently the most widely used mail sending protocol.

### Plug-in Software

Small programs used to add functions to application software.

### PoE (Power over Ethernet)

A technique for supplying power and data simultaneously over an Ethernet cable. PoE was standardized in June, 2003 as "IEEE802.3af".

### PoE Supplied Hub

A switching hub that provides PoE functionality. A maximum of 48 V 15.4 W of power can be supplied to cameras and other devices.

### Port Number

A sub address set below the IP address to connect multiple parties simultaneously for communication (TCP, UDP, etc.) on the Internet.

### Primary Server

DNS servers usually have more than 2 system and the primary server is the main system.

### Private Address

IP address assigned when connecting primarily to LAN. Private IP addresses can be assigned freely on a network and do not require a formal application. However, because private IP addresses cannot be used to access the Internet, a router or other device it is necessary to assign a global IP address.

### Protocol

A set of rules that allows the exchange of data amongst different types PCs with information. The Internet uses the TCP/IP protocol as its base and information is transferred following http and ftp protocols depending on the application.

### Proxy Server

PC or software that connects with the Internet as the proxy for a computer on a local network. It allows special connections from the internal network and blocks unauthorized access from external networks.

### RAID (RAID5)

An abbreviation for Redundant Arrays of Inexpensive Disks 5 that provides a highly reliable disk array by distributing access over multiple HDDs, increasing both speed and capacity. Even if one HDD has errors, data can be recovered based on error correction data recorded on other HDDs. (RAID5 is used when 3 or more HDDs are connected. However, when 2 or more HDDs simultaneously have errors, data cannot be recovered.)

### RAID (RAID6)

An abbreviation for Redundant Arrays of Inexpensive Disks 6 that provides a highly reliable disk array by distributing access over multiple HDDs, increasing both speed and capacity. Even if two HDD has errors, data can be recovered based on error correction data recorded on other HDDs. (RAID6 is used when 4 or more HDDs are connected. However, when 3 or more HDDs simultaneously have errors, data cannot be recovered.)

### Recording rate (ips, I-Frame)

Unit that determines the smoothness when recorded images are played back. "ips" indicates the number of recorded frames in 1 second. When the recording rate is higher, the playback is smoother, but available recording time is reduced. I-Frame indicates the refresh rate set on the camera.

### Resolution

Indicates the smoothness of the image quality and the size of the images recorded from the camera. Indicates the number of dots used in the image displayed on the screen. A horizontal resolution of 720 dots and a vertical resolution of 480 dots is expressed as 720-480.

### Router

Placed in between different networks, a router sends data to the proper destination via network. If data on the network is addressed to an external network, routers send the data to the outside of the network after judging the optimum sending route.

### SD memory recording, SD memory data

SD memory recording is a camera function that saves images in the camera's internal SD memory when communication with the camera is disconnected within the time table recording time set on the recorder. SD memory data refers to those images recorded on the card.

### SMTP

A protocol for sending e-mail on the Internet or an Intranet. Used when transferring mail between servers or when clients send mail to the server.

### SMTP authentication

SMTP mail transfer protocol appended with a user authentication function. It authenticates passwords and user accounts between SMTP servers and clients. Both SMTP servers and clients must support SMTP authentication.

### SMTP Server

A server that supports SMTP, currently the most widely used mail transfer protocol.

### SNMP

A protocol for monitoring and managing networked communications devices, such as routers, PCs, cameras and Network Disk Recorders via a network.

### Schedule Recording

Function that automatically starts video and audio recording on a preset time schedule.

### Secondary Server

DNS servers usually have more than 2 systems and the secondary server is the sub system. If there is trouble with the primary server, the secondary server takes over.

### Sequence

Function that automatically switches the camera image in a preset order. Sequence is available on the recorder when live images are displayed.

### Subnet

A small network used as a unit of administration when a larger network is divided into smaller networks. Large networks in corporations, for example, the network can be broken down into smaller networks called "subnets" to make the network more manageable and lines used more efficiently. In this case, these smaller networks are called subnets.

### Subnet mask

Subnet mask consists of 32-bit numeric values. According to the values, devices can determine which part of the address is the network address and which part is the host address.

### System Administrator

Person with the responsibility for setting up and monitoring the recorder.

### TCP/IP

The standard network protocol for the Internet and Intranets.

### URL

An address for locating information resources such as documents and images on the Internet.

### Unicast

Way to send data to a single IP address on a network.

### VPN

Service used to make public lines as private lines. Many companies are using this as a new medium of communication instead of costly private lines. Depending on service, VPN also provides a secure line using authentication technology and encryption.

### Video Motion Detection (VMD)

Function that automatically detects objects moving in video images.

The main unit records the VMD information sent from the camera and has a VMD search function (*) to find images for only the time and date at which motion was detected.

* Refer to the readme.txt for information about cameras that support VMD search.

### WAN

Allows physically separated PCs, such as between the head office and a branch office, to connect via a phone line or private line data for exchanging.

### Web Browser

Application software necessary for viewing web pages. The software downloads HTML, image, and sound files from the Internet and displays them after analyzing them. Microsoft Internet Explorer is one of the web browsers.

# Index

1-screen live sequence ........ 54
4-screen live sequence ........ 54

A

Access interval ........ 64
Administrator ........ 68
Alarm messages ........ 37
Alarm output ........ 38
Alarm suspend ........ 74
Alteration Detection ........ 57
Attach alarm image ........ 59
Authentication ........ 59
Auto adjustment time ........ 32

B

Bandwidth control ........ 62
Basic user management settings ........ 67
Buzzer ........ 31

C

CAM tab ........ 24
Cam. select button ........ 19
Camera auto-registration ........ 28
Camera partitioning ........ 68, 69, 71
Camera port ........ 11, 75
Camera registration ........ 28, 48
Camera search ........ 48
Changing the camera number. ........ 50
Client PC port ........ 11, 75
Command alarm ........ 41
Compression ........ 34, 43
Config. ........ 83
Contents of the alarm mail ........ 90
Control tab ........ 18
Copy area ........ 77, 79, 84

D

DDNS ........ 64
Default screen ........ 68, 69, 71
Deleting host information ........ 72
Deleting user information ........ 70
Destination address ........ 59
DHCP ........ 11, 27, 49, 62
Disk ........ 79
Disk configuration ........ 83
Disk end mode ........ 79
Disk information ........ 76
Disk partition information ........ 83
Domain name ........ 62
Duration-Post ........ 57
Duration-Pre ........ 57

E

Editing host information ........ 72
Editing user information ........ 70
Emergency rec. ........ 21
Emergency recording area ........ 82
Emergency recording settings ........ 34
Event function ........ 37
Event rec. ........ 43
Event recording area ........ 77, 79, 84
Exceptions ........ 60
Ext. ........ 47

F

FILTERING ........ 21
FTP ........ 56
FTP image transmission by alarm ........ 46
FTP port number ........ 62
FTP server address ........ 56
FTP transmission by periodic timer ........ 46

G

Gateway ........ 11
Group ........ 52
Group title ........ 52

H

HDD auto delete ........ 80
HDD capacity warning ........ 79, 90
HDD tab ........ 22
Host authentication ........ 67
Host IP address ........ 71
Hosts ........ 71
Hour meter ........ 77
Hour meter warning ........ 79
HTTP port ........ 11
HTTP port number ........ 62

I

Image display ........ 17
Image transmission by alarm ........ 57
Image transmission by periodic timer ........ 56
Information bar ........ 96
Interval ........ 56
IP address ........ 11, 15, 27, 49, 62

L

Language ........ 26, 31
LCD setup lock ........ 31
Level ........ 73
Line speed ........ 27, 62, 78
Live video ........ 43
Log ........ 18
Login user ........ 78

M

MAC address ........ 75
Mail ........ 58
Maintenance ........ 75
Maintenance port ........ 11, 75
Manual delete for copy area ........ 80
Manual delete for event recording area ........ 80
Manual delete for normal recording area ........ 80
Manual rec. ........ 43
Max. bit rate ........ 34, 43
Max. network speed (Mbps) ........ 34
Measurement button ........ 36, 45
Model/Compression ........ 51

N

Network camera ........ 48
Network information ........ 78
Network settings ........ 11, 13
Normal recording area ........ 77, 79, 84
NTP ........ 55
NTP server address ........ 55
NW link down detection ........ 62

O

Operation mode ........ 77, 84

P

Panasonic alarm protocol ........ 66
Password ........ 15, 31, 56, 64, 68, 69, 85
Playback point operation area ........ 22
POP server address ........ 59
Port forwarding ........ 62
Port number ........ 29
Port setup ........ 27
Post-event ........ 43
Pre-event ........ 43
Pre-event recording area ........ 77, 84
Preset ........ 39, 40, 41, 54
Primary server address ........ 62
Program settings ........ 30
Proxy ........ 60

R

Rec event list ........ 19
Recorder setup ........ 34, 43
Recording information ........ 77
Recording rate ........ 34, 36, 43, 44
RECOVER ........ 21
Reocrder setup ........ 43

S

Schedule rec. ........ 43
SD memory backup ........ 36
SD memory data acquisition ........ 21
Secondary server address ........ 62
Sender's address ........ 59
Sequence ........ 53
Sequence display type settings ........ 54

Serial number ........ 75
Server address ........ 60
Server directory ........ 56, 57
Settings management ........ 81
Setup tab ........ 20
Site alarm ........ 40
SMTP server address ........ 59
SNMP ........ 65
Special days ........ 47
Status display ........ 21
Subnet mask ........ 11, 27, 62
Summer time (daylight saving) ........ 33
System administrator ........ 15

**T**

Terminal alarm ........ 39
Time & date ........ 26
Time adjustment ........ 55
Time display format ........ 32
Time zone ........ 32, 51
Timetable ........ 46
Total capacity ........ 77, 84

**U**

URL ........ 15
User authentication ........ 67
User mng. ........ 20
User name ........ 15
Users ........ 69

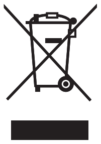
**V**

Version ........ 10
Version information ........ 75

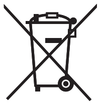
**W**

Warning mail notification ........ 90
Web browser ........ 15

## Information for Users on Collection and Disposal of Old Equipment and used Batteries

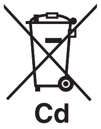


These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.
For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.
By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.
For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.
Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.



**For business users in the European Union**
If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

**[Information on Disposal in other Countries outside the European Union]**
These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.



**Note for the battery symbol (bottom two symbol examples):**
This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

**For U.S., Canadian and Puerto Rican fields:**

**Panasonic System Solutions Company,**
Unit Company of Panasonic Corporation of North America
www.panasonic.com/business/
For customer support, call 1.800.528.6747
Three Panasonic Way 2H-2, Secaucus, New Jersey 07094

**Panasonic Canada Inc.**
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3 Canada (905)624-5010
http://www.panasonic.ca

**Panasonic Sales Company**
Division of Panasonic Puerto Rico Inc.
San Gabriel Industrial Park 65th Infantry Ave. KM. 9.5
Carolina
P.R. 00985(809)750-4300

**For European and other fields:**

**Matsushita Electric Industrial Co., Ltd.**
Osaka, Japan
http://panasonic.net

Importer’s name and address to follow EU rules:

Panasonic Testing Centre
Panasonic Services Europe GmbH
Winsbergring 15, 22525 Hamburg F. R. Germany

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# Notes on handling HDD

Be aware of the following at HDD installation and recovery:
The network disk recorder, WJ-ND400, is described as ND400 and the extension unit, WJ-HDE400, as HDE400.

## <Notes for HDD installation>

If an HDD unit is added during the operation described below, the ND400 and HDE400 do not recognize the HDD unit to be added.

- Process of HDD recognition
- Process of HDD removal
- Process of logging in the configuration using the Web browser
- Process of measurement using the Web browser

### Solution

Remove the unrecognized HDD unit once, and install the HDD unit again after completion of the operation described above. When installing 2 or more HDD units, perform HDD recognition unit by unit.

## <Notes for RAID5/RAID6 recovery>

Never turn off the power during the RAID5/RAID6 recovery. Failure to observe this may fail to retrieve the data.
The following cases obstruct the start of RAID5/RAID6 recovery.

- Case that the failed HDD unit is replaced in the power-off state and then the power of this unit is turned on
- Case that 2 HDD units are replaced and then the power of this unit is toggled on and off during the recovery of one HDD unit when 2 HDD units in the RAID6 fail
  In this case, the recovery of one HDD unit will start, but the recovery of the other HDD unit will not start.

### Solution

Remove the HDD unit the recovery of which will not start, and install the HDD unit again.

# Notes on using audio and VMD search

To use audio and VMD search, the total number of recording cameras plus channels for audio plus channels for VMD search shall be 64 or less.

Number of recording cameras + number of channels for audio + number of channels for VMD search ≦ 64

Failure to observe this may cause unrecorded images that should be recorded, undisplayed live images that should be displayed, unissued alarms that should be issued, depressed operational response, restart of ND400, etc.

Reference values for settings are indicated below.

Reference values at M-JPEG for compression method and 48 KB for image size

| Number of cameras | Live image transmission rate (ips) | Recording rate (ips) | Number of channels for audio use | Number of channels for VMD search use | Number of PCs |
|---|---|---|---|---|---|
| 64 | 5 | 5 | 0 | 0 | 4 |
| 48 | 5 | 5 | 0 | 16 | 4 |
| 48 | 5 | 5 | 16 | 0 | 4 |
| 32 | 5 | 5 | 16 | 16 | 4 |

Reference values at MPEG4 for compression method and 2 Mbps for bit rate, refresh interval: 1 sec.

| Number of cameras | Live image transmission rate | Recording rate | Number of channels for audio use | Number of channels for VMD search use | Number of PCs |
|---|---|---|---|---|---|
| 64 | ALL | ALL | 0 | 0 | 4 |
| 48 | ALL | ALL | 0 | 16 | 4 |
| 48 | ALL | ALL | 16 | 0 | 4 |
| 32 | ALL | ALL | 16 | 16 | 4 |

* Measured values shall be used at 128 Mbps or less of the bit rate. (Refer to the Setup Instructions (PDF))

* The setting for PC is described at the case of 4-screen display. The total rate of recording, playing, and live image transmission shall be 200 Mbps or less.

* Refer to the operating instructions of the camera for how to set the VMD search.

# Notes on network connection

To connect between ND400 and PCs or between ND400 and cameras, use a gigabit-ready HUB.

Failure to observe this may cause unrecorded images that should be recorded, undisplayed live images that should be displayed, unissued alarms that should be issued, etc. resulting in collapsed live images or playback images.